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ALBANY MEDICAL ANNALS

Journal of the Alumni Association of the
Albany Medical College

VOLUME XXVII

Ἄσφαλές καὶ ἔμπεδον ἔστω τὸ σὸν ἔδος. Ἐκ σκότου μὲν ἔξαγε
φάος, ἐκ δὲ πάθους ἀναψυχὴν



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ALBANY MEDICAL ANNALS

Original Communications

ORGANIZATION, METHODS AND RESPONSIBILITIES IN THE STUDY OF MEDICINE.

Opening Address, Albany Medical College, September 19, 1905.

By A. VANDER VEER, M. D.,

Professor of Surgery, Albany Medical College.

Mr. Chancellor and Gentlemen:

Rotation in the discharge of certain official duties connected with this college, is not yet, in the process of administrative evolution, abolished. Years of past work remind me that this is the third time I have been called upon to discharge this duty, and for the present occasion I have believed it not without interest to dwell somewhat upon organization, methods, and responsibilities, as they have been met by men who have had in charge the welfare of the Albany Medical College since its inception.

The organization of this college developed from the best of motives, having in mind the good of the medical student and the placing of our profession on a higher plane of usefulness. The ambition of one man to impart to those who were earnest in their desire to obtain a knowledge of anatomy and surgery,—that which he had acquired,—developed the private school, and later, by Act of the Legislature, the medical college. This man was Dr. Alden March, Dr. James H. Armsby soon after being associated with him. In organization the former was brave and strong. He succeeded in securing this building and rearranging it for amphitheatre and lecture room work. In those days men desiring to practice medicine did not, necessarily, have to graduate from a medical college, but with the evidence of having, in one way or another, acquired some knowledge of the medical profession, they were frequently licensed by county societies. Dr. March saw, and was foremost among those who early recognized

that if false doctrines, and the ignorant work of incompetent men, were to be corrected, it must be done through better methods employed in the instruction of those who were being trusted by the public as physicians. In the evolution of this thought he gathered about him the best men that could be obtained. He made few mistakes in his associates. Let history speak: Where will you find a record of work better performed than by Dr. James MacNaughton in his palmy days of youthful and middle age vigor? It is not generally known, but nevertheless true, that he did much, based upon scientific observation, to modify the heroic treatment of disease, in a rational way to lessen the dangers of a wrong diagnosis, and administration of harsh and uncalled for medicines.

Consider for a moment the splendid work of T. Romeyn Beck, on "Medical Jurisprudence," the greatest in his day; the same of Bedford, in his "Clinical Obstetrics," also the continuous lectures on the same subject by Harry Green and Ebenezer Emmons, professors of obstetrics, the latter also in natural history and chemistry; later Amos Dean in his lectures on "Medical Jurisprudence," Lewis C. Beck, in chemistry and pharmacy, David M. Reece, in theory and practice of medicine, and David M. McLachlan, on materia medica and pharmacy. In their day these men possessed a national reputation. That the methods employed resulted in developing men of great strength, one has but to go over the list of the, then, graduates, to recognize how prominent they afterwards became in civil, hospital, college, army and navy life, occupying some of the most important positions in the gift of the people and the Government. The public and professional life of the original faculty of this college is now history, and one has but to re-read it to realize how thoroughly these men met their responsibilities in educating students of our present institution. Methods developed into realities that brought success to the Albany Medical College soon after its work became known, and at once it occupied a place of respect and confidence throughout the land.

It was during this early period that Dr. Thomas Hun, after a thorough education in this country and abroad, began his famous lectures on "The Institutes of Medicine." What an interesting essay could be written on the evolution of his subject from that period to the present time.

Dr. March, in the work of organizing, early recognized the im-

portance of having a good museum and to it he brought his own anatomical and pathological preparations. In this work he was ably assisted by Dr. James H. Armsby, who, in securing an appropriation from the Legislature, was able to purchase specimens, and to add his own collection, so that very soon the museum of the Albany Medical College became famous, and was of real value as a factor in the education of its students.

In giving instruction Dr. March also realized the importance of adopting methods that would keep the school abreast of what was being done elsewhere. He had determined, and availed himself of seeing what was being done by able men in this country and abroad. Going to New York, Boston, Philadelphia, and Europe meant much in those days of difficult transportation, but from these visits he gained brilliant inspiration and was among the first in this country to establish a regular surgical clinic, for the purpose of giving the students clinical instruction in surgery. These clinics were started, and for many years maintained, in the amphitheatre we are now occupying. The, then, faculty, was well organized, and giving satisfactory results in didactic work, on a basis of two lecture courses of fourteen to sixteen weeks each, and two year candidates being graduated on passing an examination before the faculty and Board of Curators. At this early date the State manifested an interest in controlling medical education, for, in return for the appropriation made, they required the appointing of a Board of Curators, before whom students must be examined, and if found incompetent they could not be granted their diploma, although "having passed the faculty." Of the list of those constituting the Board of Curators, from time to time, it is interesting to note that the descendents of such men as Staats, Wing, Boyd, MacNaughton, Cogswell, Bigelow, Freeman, Craig, Babcock and Snow, of Albany; Vedder, of Schenectady; Whiton and McLean, of Troy, and Featherstonhaugh, of Cohoes, are today represented in the administrative work of the college.

The faculty had been working earnestly for a period of ten years, when they desired to make use of still more advanced methods, and in order to accomplish this the establishing of a hospital became necessary. Doctors March, Thomas Hun, Armsby, and James MacNaughton were unceasing in their efforts, and their first clinical work was done in a small building—long since passed away—on the corner of Lydius Street, now Madison Avenue, and Dove Street. In 1849 a charter was obtained and

the building secured now standing on the corner of Eagle and Howard Streets.

The next fifteen to twenty years, under what we would now term the old regime, was probably the most prosperous period connected with the work of the early organizers of the college. They had performed their duty well and good results followed. They had met the responsibilities that came to them in a manly manner; they had done their best, and it was appreciated both by the public, and by the medical profession, the former through the Board of Trustees of the college, in doing much that was possible to advance the interests of the institution, the latter in its favorable criticisms in county, State, and National medical societies.

The organization of the Albany Hospital proved of great help to the teaching force of the college. Here methods could be adopted and made use of, such as bedside instruction, first so earnestly advocated by Drs. Thomas Hun and Howard Townsend, and employed, to a certain degree, by Doctors March and Armsby, not only aiding the student, but giving a reputation to the college that was soon recognized by the country at large. For several years this hospital was visited by members of the medical profession from cities in this and other states, in order that they might note its work, and the good it was accomplishing. It is very interesting to read the reports made for the following few years after the hospital was organized. I have in my possession the original manuscript letter of Dr. Thomas Hun, to the Board of Governors, in which he states that the hospital was becoming so crowded with patients suffering from tuberculosis, that provision should be made for them in some other way.

I have sometimes thought that this suggestion of his must have resulted later in there being introduced into the by-laws of the hospital, a clause forbidding the entrance and retaining of incurable cases.

However, there inevitably came a time when great changes occurred in the teaching force of the college. As an Albany poet has so well said "Time, the tomb builder," was at work, and not long after the close of the Civil War, by death, and resignation, the original faculty ceased from their earthly labors. They had made some preparation for this change, it is true, but not such as the men who followed later have done. They had introduced some new men, but almost coincident with these additions these zealous professors and adjuncts were scattered. The bril-

liant, noble, Howard Townsend, and the scholarly James E. Pomfret, died, later; the good anatomist, Henry Haskins, and J. V. Lansing, the model clinical instructor moved to, and took charge of a State institution, while the earnest and advanced thinker, S. Oakley Vander Poel, and the charming, most courteous J. S. Mosher, moved to New York to take charge of the Quarantine Station of that great port. To my mind this became the most trying period in the existence of the college. During a short time following the death of Doctors March, MacNaughton and Armsby, and the appointing of some of the men who make up the present faculty, a few able professors were secured from New York and elsewhere. However, following the loyal consultations held by the Dean, Dr. Thomas Hun, Doctors Quackenbush, Swinburne, some of the members of the present faculty, and members of the Board of Trustees, a re-organization was brought about, and a very complete teaching force, both didactic and clinical, installed. Doctors Vander Poel and Mosher having returned from New York again became active members of the faculty. During the administration of the original faculty, it must be noted, and aided later by enthusiastic adjuncts, important additions and changes had been made to and in the college building. In addition the Albany Hospital had been twice enlarged, St. Peter's and the Child's Hospitals established, the County Hospital made use of for instruction, and with new dispensaries Albany, as a medical centre, had advanced very materially.

Who will dare to assert that the original faculty and Board of Trustees connected with this institution, failed in their primary organization, in the originating and adopting of new methods, or in meeting their responsibilities as they presented from time to time?

Following their appointment what has the present faculty accomplished? They came into control when bacteriology, pathology, experimental and preventive medicine and clinical instruction were subjects claiming attention, and recognized as of great importance; organized and adopted in very few institutions, but grasped and brought into the curriculum of this college with a vigor and degree of success exceedingly pleasing to all interested. One of the advances made at this time was increasing the length of the term from sixteen to eighteen and twenty weeks, and three years study instead of two, with later a complete four years' course of thirty-two weeks each, all of which led to greater de-

mands being made upon the teaching force of the medical profession in this city and adjoining territory.

The new faculty early recognized that in final examinations a number of honest men were plucked because they were not properly prepared for the study of medicine, and failed in consequence. This seemed to be an injustice to them and in addition to the other changes made a preliminary examination was required, the very first adopted by any medical college in this State. It resulted in the loss of some students, but it brought us better men, and final examinations were not so distressing. The examinations were changed to both verbal and written, and to monthly, mid-winter and final.

Realizing the injustice done their own students, by other colleges passing men who had attended a less number of courses, and given less time to acquiring their education, the faculty urged, and finally were successful, in their efforts, assisted by many good men in the profession, in seeing a State Board of Medical Examiners appointed by the State, before whom all graduates of medical colleges had to pass an examination before being permitted to practice. This law abolished the Board of Curators. The present faculty met the responsibility, in the increased work called for, in a brave, progressive manner. It is true imperfect accommodations were afforded at first, in this line of work, but in consultation with friends of the college, with men of financial ability, and generous disposition, there came, in course of time, the Bender Hygienic Laboratory, in which some of the very best instruction has been given. I need not dwell upon the history of this plant. Clinical instruction developed as has section work, and we have found it necessary to make use of other institutions in the city. In line with the progressive policy, and adoption of new methods, St. Peter's and the Child's Hospitals have been enlarged, St. Margaret's Home, and the South End Dispensary established, the various orphan asylums, the Home for Incurables, the Albany Guild for the Care of the Sick, and county institutions have been made use of to the advantage of our students.

I cannot refrain from speaking of the splendid new Albany Hospital plant, with which you are well acquainted. I might say in its construction does it not illustrate that the present faculty, trustees, and board of governors seem willing and able to meet the responsibilities that have devolved upon them?

And now, this term, we will enter upon a line of work that will demonstrate the earnest wish of the present authorities to meet all professional demands. As you know, there have been established two new departments, one of physiological chemistry, the other experimental physiology. The former you will become acquainted with more particularly this present session; both in a year from now will be thoroughly organized and the very latest methods made use of pertaining to such a line of instruction. The faculty feel very thankful in having secured so able a teacher as Dr. Jackson, who is with you to-day.

It cannot be denied that in this building we have now reached our maximum ability to meet all new requirements. New buildings must be provided, and in this we believe our friends will soon aid us. No institution has a more loyal number of graduates, and they have already shown a strong desire to assist us in this direction. Let me say here, that from the time of the earliest graduates, few colleges have shown a more keen and earnest desire to advance its own students than has this institution.

I have spoken somewhat of our new faculty; the time of its organization is pretty well known to you all; we have been a unit in our desire to do everything possible for the good of our students. A quarter of a century of harmonious work speaks well for our good intentions.

Sorrow has come to us in parting with our fellow workers. We met with a great loss in the death of J. V. P. Quackenbush, Edward R. Hun, Jacob S. Mosher, John P. Gray, John Swinburne, Franklin Townsend, Jr., S. Oakley Vander Poel, Thomas Hun, and Maurice Perkins, and Harrison E. Webster by resignation, while others, by reason of physical disabilities, are unable to go on with their work, but their good wishes are ever with us. Vacancies have been filled, others will follow, and who of you now student will have so worked as to merit recognition?

While new buildings are desirable, yet honest instruction can be given by teachers, assisted by students, in the college plant as it stands to-day, and in connection with the other associate institutions. I doubt if a new building could be constructed containing better lecture rooms than some of those we now occupy.

And now, young men, you who are to become members of the great profession of medicine, who are to occupy important

positions, and upon whom will rest the critical eye of public opinion; you who some day are to become tutors, instructors, lecturers, professors in this college, and other like institutions; you who are to become attending physicians and surgeons to the hospitals of this and other cities and countries, what are your ideas of organization, methods, and your own responsibilities?

May I venture a few suggestions? Of the men who have occupied the seats you are now occupying, a few have become the most eminent in this country, and I dare say they illustrate the thought and evidence of systematic work from the beginning of their career.

Organization begins in student life. I trust that you who are members of the junior and senior classes have, by this time, realized, and fully grasped the importance of systematic work in your studies, by thorough quizzing, by means of quiz classes, special societies, your recitations, etc.; that you have adopted such methods in the taking of notes, listening to didactic lectures, more particularly in connection with your clinical instruction, and I hope you will make use of that most admirable of methods, the card system, in conjunction with diagrams and charts, so as to place on record truths that later will be of value to you.

You of the freshman and sophomore years have much resting upon you in the proper organization and disposal of your time. Those of you who are wise will devote certain hours to study, certain hours to recreation. You will adopt methods, such as your attention will be called to by members of the faculty and instructors, and which you will do well to follow. Concise methods will make you good observers, good observers become thinkers, while thinkers in medicine and surgery become the eminent men in our profession. Your responsibilities are great and are to be noted in the disposal of your time. Nothing reacts so much to the benefit of the teacher and student as loyal, attentive attendance. This applies not only to the teacher, but equally so to students. I have seen very many men earnest in soliciting some appointment as instructor or otherwise in the college, who have failed sadly in attention to their duties. I have seen many a student lose golden opportunities because of his heedlessness in attending to his work. Let us dwell on this a little more concisely: Observations made along parallel lines are not invidious or out of place. Think of the commercial life

of this country. There has never been a period of such continuous success, but when you talk with the leading and most successful men in life you will realize that they dwell upon the way in which business is organized, the methods adopted, and the responsibilities of those who are factors in its success. Sons of railroad presidents, sons of men controlling great commercial houses, are now being made to fill the most menial positions. In many instances college graduates are made to become conversant with every step that leads to the most honorable positions offered in business. Read the life of one man like that of Joseph Jefferson, if you wish to know what can be accomplished by the observance of strict methods, and recognition of a responsibility, in order that he might become a successful actor.

I do not deem it out of place to speak to you young men at the present time as though I were saying something at commencement exercises, when you have received your diplomas, and are expected to enter upon a more responsible period of your existence. When your work is accomplished, and the law says you are a doctor in medicine, and you have commenced the practice of your profession, you will find that the public at large demands that you be ready at all hours. Their call upon you is in a time of distress, and the fee is to be your reward, from their point of view. Many are honest in believing it will requite the efforts you make in behalf of their sick ones, but you know well you are working for something more than this. The physician working for success does not ask, when the call comes, during rain or shine, night or day, from rich or poor, whether the man is able to pay his fee or not. That is not the motive urging him to respond to the call. He knows that ultimately many of these bills must be cancelled, although following the result of labor carried out at all hours of the day or night, and, when in reality, it was a great tax upon his physical strength. He goes to discharge the responsibilities that rest upon him after years of labor in acquiring a profession he loves, and to succeed he must love that profession and work for the solution of the hidden problems it constantly presents.

Remember that "whatever comes from the brain carries the hue of the place it comes from, and whatever comes from the heart, carries the beat and color of its birth place."

Acquaint yourselves with these facts: "Twenty per cent. of

human beings die before they are a year old; 25 per cent. before reaching the age of five; 50 per cent. only reaching the age of 25, and the average length of life is 40 years."

Which of you here are to be of that number who must, inevitably, in the future, aid, to a greater or lesser degree, in the lengthening of human life, because of the methods imparted to you in just such institutions as we now represent?

The belief exists that owing to the advances made in diagnosis and treatment, over 50 per cent. more babies are saved than was the case 10 years ago.

"There is a best way to live, and it is best to live the best way." The responsibility for what we are depends upon ourselves. Say what we will, the demand for properly prepared men, through accumulated instruction, and otherwise, in commercial and professional life, was never so great as at the present time. I have, not infrequently, heard young men express regret that they had not lived a decade or two ago, when greater opportunities, in the discoveries of the day, presented for acquiring recognition and reputation—an error in their estimate of possibilities.

To-day our profession, in the school of investigation and research, present to the careful student as good opportunities as the past has ever offered.

It yet devolves upon the student of medicine to grapple with the only partially solved questions of the water and milk supply of our great cities. I believe there are those here to-day who will yet see that most difficult problem, i. e., the true knowledge and proper treatment of cancer solved. You know something in regard to the earnestness with which this fearful affliction of the human family is being studied at present.

Think of the present careful investigation into the etiology and treatment of pneumonia.

Of the advances that have been made in the investigation and treatment of that hitherto fatal malady, tetanus, you are well acquainted. The preparation of the tetanus antitoxin serum is part of your instruction here.

Consider for a moment what has been accomplished in the past five or ten years. Do some general reading aside from medicine. This is not the place and time will not permit my elaborating this thought. Begin now, and in the organization of your life's work think of all the possibilities that may present.

Do not forget the obligations that come to you in fitting yourselves to become members of general and special societies. Observe the example placed before you by your present faculty. Of all the special societies or associations in this country, I think there is but one or two which is not here represented. But I will not encroach further upon your time in referring to this fascinating subject. I do want to impress upon you the importance of every day engaging in the systematic reading of some of the best literature published. You cannot estimate how much can be accomplished by devoting ten, thirty or sixty minutes daily in this manner. This applies to current medical publications as well as to the daily papers, etc. I know of nothing so charming as in the boarding house circle to note the enquiry made by some attentive reader in exclaiming "I wonder what there is in this radium and x-ray treatment of cancer; what is this new anaesthetic, scopolamin, that we hear so much about?" "Will someone tell me what kinetic demography means?" "I wish someone would explain to me the mosquito theory of disease, the varieties of mosquitos and how infection occurs?" These are but a few of the many questions that are offered, and yet how delightful it is to have some one or more bright medical students present who can answer intelligently, or, if the word is not familiar to him, to take up his latest medical dictionary and explain his answer clearly. These are the men who later on in life conquer success along their pathway. These are the men who, when in practice, are able to meet calmly the discussion of such subjects as the "natural bone setter," the work of the clairvoyant, and other like questions that are ever presenting themselves. In like manner they are able to enlighten their interrogators on the "isms" of Christian Science, faith cures and the like.

You cannot blame the physician of the past for being somewhat of a sceptic, but you cannot give him too much credit who patiently investigates, selects the truths for his patients, and impressively and convincingly to the public explains away the chaff.

May you so live that in the future you may be able to do your full share, and in all your work remember organization, methods and responsibilities.

And now, in behalf of the faculty, I extend to you a renewed welcome for the coming college year. Our homes will be open

to you for social enjoyment. We again welcome you to the city, in which there is much for your intellectual comfort. From the libraries which you are permitted to visit you will be able to gather much of value. Be careful of your time and make good use of the present that you may not in the near future gather a chapter of regrets. Bear this in mind that in every member of the faculty you have a friend.

IRIDOCYCLITIS.

ITS COMMONER FORMS AND THEIR TREATMENT, WITH REPORT
OF CASES.

*Read before the Hampden District Medical Society, Springfield, Mass.,
October 17, 1905.*

BY FREDERICK T. CLARK, M. D.,

Attending Surgeon, Eye, Ear, Nose and Throat Department, Noble Hospital,
Westfield, Mass.

It was after considerable hesitation that I accepted our Secretary's invitation to read a paper before this society, knowing that subjects which are attractive to me might not prove of the same interest to the majority of the members. However, I believe that a consideration of one of the diseases of the eye which we all frequently meet in our practices, and which not infrequently results in partial or total destruction of a patient's vision and subsequent usefulness, may not be without benefit to us all. I refer to that common disease of the eye known as iritis, or in its severer form, iridocyclitis.

Severe inflammation of the iris (iritis) without more or less involvement of the ciliary body (cyclitis) is unusual, and many inflammations designated iritis would be more correctly described by the term iridocyclitis.

This disease is either primary or secondary in its development. The primary forms are in the main the manifestations of some dyscrasia or general disease, while in the secondary forms there is invariably an inflammation of neighboring structures with subsequent involvement of the iris and ciliary body. Those cases now designated by the term idiopathic, because we can assign no cause for their development, must be classed as primary.

Following the classification of Fuchs we shall find primary iridocyclitis developing in consequence of (1) syphilis, (2) tuberculosis, (3) rheumatism, (4) gonorrhoea, (5) diabetes and (6) the acute infectious diseases. Primary iridocyclitis as an undoubted local affection occurs only as the traumatic and sympathetic inflammations, while the idiopathic variety, now classed as a local inflammation will disappear as our knowledge of the relations of morbid processes increase. It is the primary or commoner forms that we wish to consider at this time, although with some modifications the same line of local treatment outlined farther on is applicable to the secondary forms.

An explanation of the symptoms of this disease is to be derived from a study of the important pathologic changes, *viz.*, the congestion of the iris and ciliary body, and the formation of exudates. The congestion is evidenced by the change in color of the iris, causing a blue or gray iris to appear greenish and a brown one to appear of a lighter shade when compared with its healthy fellow of the other eye. The pupil is contracted and does not react readily to light. The congestion of the iris is accompanied by injection of the ciliary region, sensitiveness of the eye to light and increase in the flow of tears. The contraction of the pupil is the logical result of the dilatation of the vessels of the iris together with spasm of the pupillary sphincter from irritation. For these reasons the effects of atropin on the pupil are modified or made ineffective and the reaction to light diminished.

Exudation from the over distended blood vessels takes place partly into the tissues of the iris and partly into the anterior and posterior chambers. With exudation into its tissues the iris appears more swollen and discolored and the pupil greatly contracted. The surface markings are effaced. Turbidity of the aqueous is the first manifestation of exudation into the anterior chamber. The dark background of the pupil becomes gray instead of pure black. The exudate may sink to the bottom of the anterior chamber producing the condition known as hypopyon, or if the congestion is very great an extravasation of blood occurs which sinks to the bottom of the chamber producing the condition known as hyphemia. A delicate layer of exudate may be found adhering to the cornea and capsule of the lens which consequently appear gray. If the exudate becomes organized a membrane which closes the pupil is produced. This condition

is called occlusion of the pupil (*occlusio pupillæ*) and may result in great impairment of the vision.

Exudation into the posterior chamber manifests itself by the formation of adhesions between the iris and capsule of the lens. These adhesions are known as posterior synechia and develop mainly at the margin of the iris where it is in contact with the lens. As the inflammation subsides and the pupil tends to dilate, those portions of the iris adherent to the lens capsule cannot retract and remain as tags projecting into the pupillary space. The irregular shape of the pupil and the extent of the synechia are made more apparent by the instillation of atropin, a procedure of great value in determining the presence of synechia in old cases. The traction of the iris after the instillation of atropin may be great enough to rupture the synechia, in which event a brown spot remains at the point where the iris was adherent to the lens capsule. These spots are derived from the pigment layer of the iris and never disappear, hence are a never failing evidence of the previous existence of an iritis and may give rise to the subjective symptom of specks before the eyes. In very severe inflammations or after repeated attacks the entire margin of the iris may become adherent to the lens capsule (annular posterior synechia) thus shutting off communication between the anterior and posterior chambers and producing the condition known as exclusion of the pupil (*seclusio pupillæ*). These two dreaded sequelæ of this disease, exclusion and occlusion of the pupil, may occur together or separately. The latter may cause great reduction in vision without entailing more serious consequences while exclusion of the pupil though not immediately affecting the sight, induces increased tension, which results in blindness.

In severe iridocyclitis exudation from the ciliary body finds its way into the anterior and posterior chambers and into the vitreous where it becomes apparent in the form of opacities. In these cases with much exudate the sight is almost abolished and atrophy of the eyeball is subsequently produced by shrinking of the mass. Exudate is poured out between the lens and iris binding down its whole posterior surface to the lens causing a total posterior synechia.

The tension in the milder cases remains unchanged, but in the severer type of the disease, especially in the early stages, the tension may become so elevated as to cause immediate blind-

ness, or, on the contrary, as the process subsides diminution of the tension is more frequent because of a shrinking of the exudate.

The special characteristics of this disease when due to syphilis, which causes at least half of all cases, are the formation of nodules at the pupillary or ciliary margins of the iris. In some cases no nodules appear, only marked swellings of the pupillary margin being present and in still other cases no distinguishing characteristics of the syphilitic disease are present.

The diagnosis of iridocyclitis is based on the conditions just described and needs no discussion here.

Sympathetic iridocyclitis while included in the scope of a paper on this subject needs too exhaustive a discussion to be considered at this time.

The course and termination of this disease is worthy of extended discussion, but the limitations of this paper forbids more than their brief consideration.

Iridocyclitis often shows a great tendency to relapse. Especially is this true of the rheumatic form. The outcome of an attack may be a perfect cure in mild cases. The synechia all rupture leaving a circular pupil, the hypopyon disappears by resorption; and the exudates even to considerable opacities of the vitreous may all clear up. In the majority of cases, however, permanent sequelæ remain. Atrophy of the iris develops after severe or repeated attacks. The most frequent and important of the sequelæ are the exudates and adhesions. Posterior synechia are common, but unless extensive, cause little interference with vision. If the pupil be bound down throughout its entire circumference a very serious condition results. This is the exclusion of the pupil previously mentioned, which unless remedied by an iridectomy, thus reestablishing communication between the anterior and posterior chambers, terminates in total blindness from the resulting increased intra-ocular tension. The organization of a pupillary membrane producing occlusion of the pupil disturbs vision in proportion to the thickness of the membrane.

In some cases cataract develops because of the disturbed nutrition of the lens.

Exudates occur in severe cases totally binding the iris to the lens and enveloping the lens in a mass of fibrinous material. This has a great tendency to shrink, and with contraction of the vitreous the retina becomes detached and blindness with atrophied

eyeball results. In the treatment of every case of iridocyclitis it is our duty to combat the local symptoms and, to the best of our abilities, search for and remove the underlying cause. In many cases no etiologic factor can be discovered and we are dependent to a great extent upon symptomatic treatment.

In a case of even moderate severity the patient should be put to bed in a darkened room, given light but nutritious diet, his bowels kept loose, preferably with salines, and the urinary secretion stimulated. Atropin is the most important remedy in the local treatment. It contracts the iris, reducing the congestion and relaxing the spasm of the pupillary sphincter, and if used early may rupture the newly formed synechia. Atropin should be used vigorously at first to obtain its full cycloplegic action. Drops of from 1 to 5 per cent. solutions should be instilled, their effects of course being carefully watched. Cocaine and adrenalin chlorid may be advantageously used in conjunction with the atropin if it alone does not accomplish the desired dilatation of the pupil. In some few cases atropin is not well borne, cyclitis being intensified and catarrh of the conjunctiva resulting. In these cases it must be replaced by scopolamin or duboisin, or even a miotic should be used.

Moist hot compresses give relief from pain and hasten the resorptive process.

Extraction of blood from the temple by means of five or six leeches or the artificial leech will in the beginning of severe cases lessen the pain and inflammatory symptoms and often after such relief the pupil for the first time dilates under the action of the atropin.

The production of profuse diaphoresis every second or third day has frequently a very favorable effect upon the course of the disease. This should be produced by the use of pilocarpin hypodermatically, or sodium salicylate internally with the aid of hot drinks and the hot air or steam baths. In the syphilitic form of the disease, and in my opinion, in any form of iridocyclitis, especially if there is any doubt as to the etiologic factor, mercurials in the form of inunctions should be used daily. They should be kept up until the inflammatory symptoms have subsided or until ptyalism appears.

Severe rheumatic iridocyclitis has done well in my hands under the administration of large doses of sodium salicylate and

it is recommended by others as doing good service in some cases of the gonorrhoeal and diabetic forms.

The following histories of a few cases coming under my observation within recent months will serve to emphasize the practical application of some of the suggestions made in this paper.

CASE I. A. M., male, aged 27, single, barber by occupation. He came to my office having been suffering for thirty-six hours with pain in the right eye and temple, photophobia and lachrymation. Examination showed the iris discolored, pupil contracted and injection of the ciliary region. Vision o right eye $20/30$, left eye normal. Denied syphilis; never had had rheumatism or gonorrhoea. Pupil dilated slowly and imperfectly under atropin and the ophthalmoscope showed slight posterior synechia which ruptured before he left the office. He was sent home with instructions as to the use of moist hot compresses and atropin, and directed to call the following day. Two days later he appeared with the inflammatory symptoms all increased and having suffered great pain during the night. Vision was reduced to $20/200$. The upper lid was edematous and the pupil irregularly contracted. The fundus could not be seen satisfactorily owing to exudation in the anterior chamber and vitreous. He was sent home and put to bed in a darkened room; leeches applied to the temple and atropin instilled in the eye every three hours. Moist hot compresses were applied almost constantly for the first few days for the relief of the pain, which was severe. Inunctions of one drachm of 20 per cent. oleate of mercury were given daily, and he was made to take ten grains of sodium salicylate every three hours for several days. Pilocarpin sweats were given him every third day. At the end of the fourth week he was able to call at my office. His vision then was $20/50$, but subsequently became normal. Posterior synechia were present. The subsequent history of this patient is interesting in that it corroborates what has been said in regard to idiopathic iridocyclitis, under which class I regarded this case. He has had no return of his eye trouble, but within a few months he was confined to his home with rheumatism, and has had recurring attacks of this disease, and finally journeyed to Mt. Clemens for its relief. Since his return he has been free from further attacks. The inunctions were continued daily for three weeks and no signs of ptyalism developed.

CASE II. J. S., male, aged 40, single, farmer by occupation. This patient was myopic to a very high degree, his normal vision being $5/200$ with either eye, as I had occasion to know from having previously examined for his refractive error. He called at my office, having suffered for four days with severe pain in the left eye. The usual signs of iritis were present, and the pupil irregularly contracted. He was admitted to Noble Hospital, and with the exception of the leeches and pilocarpin sweats, the same line of treatment was carried out as in the previous case. The inunctions produced no ptyalism and there was no

other evidence of syphilis. In four weeks time he left the hospital with fair vision, although upper and lower posterior synechia were present.

CASE III. Marie E., aged 21, single. This patient called at my office, November 28th, complaining of pain and discomfort in right eye, which had annoyed her for two days at her work as a paper-layer. Her left eye had suddenly become blind five years before. She did not know the cause of the blindness, although she spoke of having consulted three well-known oculists at that time. Cataract of the left lens was undoubtedly present when I saw her, although what fundus lesion was present is a matter for speculation. That such lesion was present is certain, for there was absolutely no light perception. On examination of the right eye only slight ciliary injection was present, and the pain and irritative symptoms were slight indeed. Tension was normal and vision 20/30, but her accommodative power was diminished so that for brief intervals it was difficult for her to read ordinary print. From the history of sudden blindness of the left eye, although she gave no history of traumatism, nor was there scar to substantiate the theory, I thought it possible that a traumatic cataract with perhaps a foreign body in the eye was to be dealt with. From this it was easy to deduce the theory of sympathetic iridocyclitis just developing in the right eye. She was sent to her home with instructions to use moist hot compresses and to keep the eye shaded from the light. She was to return the following morning, but it was not until the morning of the second day that she put in an appearance, accompanied by her mother. She had had no pain to speak of, but complained that she could see but dimly as through a dense fog. On examination her vision was reduced to counting fingers at three feet. She and her mother were thoroughly frightened, as indeed they had good cause to be. The pupil was irregularly dilated, tension was subnormal, at least—I, and opacities of Descemet's membrane and the vitreous were present. I was still possessed of the idea that a foreign body was lodged in the blind eye, and that I had to deal with a sympathetic iridocyclitis as the result of it, and consequently I took a gloomy view of the situation. I immediately telephoned to the late Dr. Prefontaine, asking him to see the patient with me and to try what effect his Haab's magnet might have on the blind eye. He saw the patient within an hour in his office, and exposed the eye to the magnet with absolutely negative results. He examined the inflamed eye, diagnosed iridocyclitis of a sluggish type, cause unknown, and because of the heavy exudate and minus tension gave an extremely unfavorable prognosis. He predicted involvement of the entire uveal tract, with ultimate blindness and atrophy of the eyeball.

Right here I wish to render this tribute to the memory of Dr. Prefontaine. He was a good friend, a gentleman and an exceptionally able practitioner of his chosen specialty, whose opinion I valued exceedingly, and whose splendid career, cut off in its beginning, I feel as a deep personal loss.

My patient was made to understand the very serious condition of her eye and was told that the entire recovery of her sight was doubtful. She was eager to do all in her power in seconding my efforts and at once returned to Westfield and to her bed in a dark room. At this time she weighed something over 160 pounds. She did not know her exact weight. Blood was freely drawn from the right temple and moist compresses as hot as could be borne were kept on the eye continuously for the first four or five days. Atropin solution was instilled every three hours for the first four days, then only nights and mornings as the pupil was well dilated. Drachm inunctions of blue ointment were given twice daily for the first four days and then once daily for twenty-eight days. Pilocarpin in 1-10 grain doses were given every six hours for the first four days with hot drinks, hot blankets, etc., producing a most thorough, and I may add, exhausting diaphoresis. She was given two drachms of Rochelle salts every morning and made to drink water freely. The patient's vision on the morning after she was put to bed was reduced to the perception of large objects and the tension considerably reduced. She suffered little or no pain, but much discomfort from her treatment. In five days' time she could again count fingers and the rigor of the treatment was somewhat relaxed. Suffice it to say that on March 10th, just three months and twelve days from the time she first presented herself at my office she again called, reduced in weight to 130 pounds but with *perfect* vision. She had no recurrence and is in perfect health. She did not develop ptyalism. She denied syphilis and no evidence of the disease other than the eye trouble could be found.

MALIGNANT OVARIAN TUMORS IN CHILDREN; WITH REPORT OF A CASE.

By J. LEWI DONHAUSER.

(From the Bender Laboratory, Albany, N. Y.)

The following case of a malignant ovarian cyst in a girl thirteen years old, emphasizes some of the clinical features of this unusual condition and on this account seems worthy of reporting in full.

History of the Case.

Miss C. P., a schoolgirl, aged 13, was admitted to the service of Dr. Willis G. Macdonald, at the Albany City Hospital, October 20, 1904, complaining of severe abdominal pain.

Family History.—Father, mother and two sisters living and well; two great aunts and one aunt and one uncle on father's side said to have had cancer.

Past History.—Very healthy child; no sickness before present illness; menstruated for the first time on September 3, 1904; flowed five days and menstruation was apparently normal. Leucorrhoea present during last few months.

Present Illness.—On the afternoon of September 11th, menstruation having ceased, she was taken with severe colicky pains in abdomen, which radiated into the shoulder. These pains soon disappeared and she became quiet until about 10 p. m., when she was again seized with an attack of a similar character. At the end of 24 hours she felt well, and remained so for three weeks, when she had a third attack similar to the previous ones. Since the onset of this last illness (on the 11th of October) she has been incapacitated, owing to the frequent and severe attacks of pain. For the past few days she has had fever (102° and over) and has been vomiting.

Clinical Diagnosis.—Ovarian cyst (ruptured) with twisted pedicle.

Operation.—A median incision exposed the peritoneum through which could be seen haemorrhagic material in the abdominal cavity. On opening the latter, it was seen to be filled with free and clotted blood. Further examination revealed an ovarian cyst which had ruptured. The blood was wiped out of the peritoneal cavity and after ligating the pedicle of the cyst, it was removed. A glass tube was inserted and the abdominal incision closed with silkworm gut. The patient was discharged November 12, 1904.

She was admitted to the service of Dr. Macdonald again on November 29, 1904, and gave the following history. About five days after the patient left the hospital she complained of soreness and pain in the right side which was soon followed by an attack of sharp pain lasting from one afternoon until the next morning. She has had numerous other attacks since, the pain extending chiefly down the right leg. Her appetite has been poor and vomiting has been more or less constant.

Her bowels have moved three or four times daily; stools have been pencil shaped; no bloody stools noted. She has lost weight and is very anaemic. For the last three days the patient has been kept in bed, on a strict liquid diet. Temperature for the last two or three days has been at least as high as 100.7°. A swelling on the right side of the abdomen was noticed before coming to the hospital.

An exploratory operation was performed on the 29th of November. An incision was made over the tumor, which was situated on the right side just below the liver. On opening the abdominal cavity a bloody fluid, in which were found pieces of grayish tissue, escaped. The cavity was thoroughly irrigated and a drainage tube, flanked with strips of iodoform gauze, was inserted. The patient lived for nearly a month after the operation, but finally became delirious and restless, refused food, and died on December 20, 1904. An autopsy was made by Dr. E. MacD. Stanton, from whose notes the following descriptions have been taken.

Anatomical Diagnosis.—General sarcomatosis of abdominal cavity. Extreme secondary anaemia. Thrombus in right heart. Operation scars on abdomen.

Abdominal Cavity.—The entire left side of the abdomen and pelvis is filled by a tumor mass which reaches to the anterior abdominal wall and is for the most part covered by a portion of the omentum. The left border of this mass extends from a point 5 cm. to the left of the symphysis pubis upward to the under border of the liver at a point 5 cm. to right of the median line. The coils of intestine adjacent to the tumor mass are loosely adherent to one another by easily torn adhesions which are apparently, for the most part, composed of the tumor itself. The remainder of the abdominal cavity contains a few cubic centimetres of bloody fluid. The peritoneal surfaces show a slight loss of lustre, with here and there, small tumors adherent to the peritoneum. These smaller masses vary from a few millimetres to 4 or 5 centimetres in diameter. Their surfaces are smooth with a thin peritoneum-like covering. Two of these masses situated on the under surface of the diaphragm have caused corresponding depressions in the right lobe of the liver. The head of the caecum and appendix together with the pelvic organs are imbedded in the new growth. The ascending colon and small intestines have been pushed over the left border of the tumor.

The general structure of the large and smaller tumors is similar. The free surface of the larger tumor is somewhat lobulated and of a mottled grayish and dark red color. The cut surface of the firmer portions of the tumor is also mottled grayish yellow and dark red, the red areas representing areas of hemorrhage into a soft succulent, grayish-yellow tissue which in many places is necrotic. The entire center of the larger mass is occupied by an ill-defined area of softening which is filled with partially clotted blood and fragments of necrotic tumor tissue. The tumors do not infiltrate the tissue beneath the peritoneum, it being possible in the case of the larger tumor to strip the parietal peritoneum from the abdominal wall.

Pelvic Organs.—All pelvic structures are imbedded in the soft tumor mass described above. The left tube and ovary, the body of the uterus, the rectum and the bladder are negative except for the presence of tumor metastases or implantations on their peritoneal surfaces. The right ovary is missing, together with all but the proximal 3.5 cm. of the right tube. On the stump of the right tube are seen several silk ligatures which show almost no evidence of encapsulation.

Liver.—Weight, 1560 grammes. The upper surface of the right lobe shows several depressions, the two larger of which measure respectively 2 and 5 cm. in diameter. These depressions are caused by two tumor masses which are adherent to the under surface of diaphragm. The under surface of the right lobe of the liver is in contact with a shaggy grayish-yellow blood stained mass representing the upper and of the large tumor mass described above. Adherent to the under surface of the left lobe of the liver is another tumor mass 2.5 cm. in diameter. On section the liver presents a pale brownish yellow surface with indistinct markings.

Gastro-intestinal Tract.—Appendix measures 15 cm. in length and is imbedded in the tumor mass. The remainder of the gastro-intestinal tract is negative, except for the presence of small new growths scattered here and there over its peritoneal surface.

Pleural cavities, pericardial cavity, heart, spleen, kidneys, adrenals, pancreas, vagina and external genitals and cavity of the uterus are all negative.

Gross and Microscopic Appearances.—The specimen removed at the first operation was described by Dr. Stanton as being a large, mutilated, haemorrhagic and necrotic ruptured unilocular ovarian cyst. Its surface was fairly smooth though in a few areas could be felt fine hard granules, and its lining membrane was covered with intimately adherent blood clots.

On microscopic examination isolated groups of cells suggesting cancer were found, but these were stained so poorly, owing to the necrosis of the cyst wall, that a positive diagnosis as to their character could not be made.

The tissue removed at the second operation, on November 27th, and examined by Dr. Stanton, consisted of a few fragments of blood stained material. The anatomical diagnosis was then made of "multiple malignant growths due to implantation from a ruptured ovarian cyst." Microscopic examination of these tissues showed a highly cellular stroma composed of numerous spindle and round cells of both the large and small type. These large spindle and round cells constituted the predominating cells of the stroma. Distributed here and there in this tissue were numerous masses of epithelial cells arranged in "irregular gland-like tubules." This cellular arrangement led to the microscopic diagnosis of "so-called adeno-sarcoma."

Sections of the tumor growth removed at autopsy show a highly vascular tissue, many of the blood vessels of which are definitely formed and distinctly show the three vascular coats. Here and there are large areas of necrosis and haemorrhage about which are strands of

a well formed granulation tissue. The histologic picture is somewhat intricate, inasmuch as in different sections the character and arrangement of the cells vary. In all, however, a very noticeable element is the rambling stroma, in the meshes of which are various types of cells, some resembling the spindle and round cells of sarcoma, others distinctly epithelioid, and still others with syncytial arrangement and again cells of definite epithelial or endothelial type. The latter are often arranged in gland-like tubules.

Examination of the smaller peritoneal nodules reveals practically the same picture as that found in the main tumor mass, namely, a stroma of spindle and round cells with masses of epithelium arranged in gland-like fashion. One section, however, taken from a nodule attached to the peritoneum by a slight and slender pedicle, presents an interesting picture of a well formed cyst. The wall of this cyst is composed of masses of spindle cells arranged as in sarcoma while the cavity is lined by columnar epithelium. This section resembles closely the new growth known as cystic adeno-sarcoma.

From the histological picture of the main tumor growth as well as that of the smaller nodules, it is evident that a microscopical diagnosis is very difficult. Owing to the peculiar arrangement of the epithelium scattered throughout the growth, one is tempted to consider the tumor as an adeno-carcinoma. On the other hand, however, the appearance of the stroma, which seems to be an intermediary type between newly formed connective tissue and true ovarian stroma containing as it does a vast number of spindle and round cells almost entirely devoid of intercellular substance, suggests a sarcomatous growth. Indeed, many malignant growths of the ovary present such peculiarities in their structure that various terms have been applied to them in attempts to combine the sarcomatous, the carcinomatous and the cystic characteristics in a single name applicable to all. Thus we have the terms adeno-carcinoma, adeno-sarcoma, cystic adeno-sarcoma, cystic endothelioma, sarco-endothelioma and Leopold's endothelioma lymphaticum and endothelioma vascularis. Poupinal speaks of secondary tumors as being of the sarco-carcinomatous type, although he does not state that the primary growth also may be a mixed tumor. Echaradt and Pomorski have used simply the term "endothelioma of the ovary."

When such a number of terms are applied to these mixed tumors, how are we to histologically differentiate between them, and are we always justified in allowing a diagnosis to rest on a few sections? Kelly points out that "a thorough sifting of material from ovarian tumors, in the pathological laboratory, has served to demonstrate the necessity of a careful microscopical examination in every

case;" and so an attempt has been made to examine most carefully the tumor which is here reported. The result, however, has Adeno-carcinoma or "adeno-sarcoma" seems to be the most plausible term to apply in this instance, but each has objections. We must be satisfied therefore in describing it, as a malignant ovarian tumor, the stroma of which resembles ovarian stroma and in places suggests a sarcomatous structure, while scattered throughout it are masses of cells having the arrangement of an adeno-carcinoma.

The history of this case brings out sharply the following points:

- 1 Ovarian cysts may occur in children and may be malignant.
- 2 The pedicle may become twisted and as a result give rise to severe abdominal pain, thus leading to a diagnosis of the cyst.
- 3 The rupture of the cyst and the distribution of its contents throughout the peritoneal cavity may lead to a general implantation of the growth and soon cause death.
- 4 The histological diagnosis of these cases is frequently difficult.

Little is said in either the text-books or the general literature concerning malignant ovarian growths in children. My interest in the case here reported has prompted me to examine the histories of the various cases heretofore reported in regard to the following points.

- 1 What are the principal malignant ovarian tumors in children?
- 2 What is the relative frequency of these tumors?
- 3 Do malignant ovarian tumors present any clinical manifestations different from those presented by the benign growths?
- 4 How frequently do accidental conditions such as twisting of the pedicle or rupture of the cyst give the first warning of the presence of an ovarian growth?
- 5 Are seemingly benign growths of the ovary to be looked upon as harmless, as are benign growths of other organs.

Unfortunately, I have not been able to obtain much information, for the references are few, and, in the majority of the cases, meagre in clinical data.

The cases of ovarian tumors which have been reported as occurring in children, embrace a number of types of new growths, which may conveniently be divided into the benign cysts, sarcoma and carcinoma; and in addition to these, a fourth type, the mixed tumor, which, owing to the difficulties attending

the determination of its structure and histogenesis, affords scope for argument as to its classification.

The benign cysts may be divided into the dermoid, and the simple uni- and multilocular cysts. The sarcomata are usually of the round or spindle cell types; while the adeno-carcinoma seems to be the most prevalent type of the epithelial tumors. The mixed tumors have been discussed in the first part of this report.

It is impossible to arrive at conclusions regarding the benignancy or malignancy of new growths of the ovary reported in the literature as "cysts." The fact that they are thus reported does not in the least confirm the idea that all are benign. Our own case shows the possibilities of malignancy in an apparently simple cyst.

Upon careful review I have been able to collect seventy-two cases of malignant tumors occurring in girls between the ages of twenty-two months and fifteen years. The relative frequency of the malignant tumors as compared with the benign growths of the ovary in children is comparatively small. Whether this is due to the fact that histological study has been neglected in a number of cases, or whether perhaps, the very small areas of the cyst wall which contain the malignant cells have escaped the examiner's notice, or whether cases have been reported too soon after the operation, thus affording little time for the observance of recurrence or whether surgeons have failed to report cases which have ended fatally, it is not my purpose in this report to state although these various possibilities have occurred to me during this study of the literature.

The fact however remains that malignant tumors of the ovary do occur in young children, and it is therefore the duty of the physician and the surgeon to look upon all ovarian growths as possessing possibilities of malignancy.

A study of the reports of malignant ovarian tumors here collected reveals the fact that clinically it is impossible at first to distinguish the benign cyst or tumor from a malignant growth.

The symptoms of the two conditions may be identical and to this fact is due the difficulty of differentiating between the two forms. Both may develop slowly and without causing the patient pain, as the latter seldom is present unless a twist of the pedicle or some other complication occurs. As the tumors grows, however, symptoms referable to a malignant growth may follow,

such as emaciation and those arising from metastasis or implantation. The histories present little variation since the health of the individual, in the majority of the cases, has been reported as "good" up to the third, fourth, fifth or sixth month before the detection of the new growth.

Symptoms calling attention to the tumor vary.

1 Some cases were discovered accidentally in operating on other organs.

2 In others, symptoms referable to an abdominal tumor, such as tightness of the clothing, dyspnoea, or constipation, have led to the diagnosis.

3 In some cases the patient came under observation on account of pain.

4 In a few cases the patient was examined on account of an associated bloody vaginal discharge.

5 Symptoms of an acute abdominal condition arising from twisting of the pedicle or rupture of the tumor, indicated the proper diagnosis in several instances.

In some of the cases here tabulated, the diagnosis of sarcoma of the kidney, hyatid of the liver, tuberculous peritonitis, sarcoma of the spine, hæmatocele, hydronephrosis or typhoid fever was made. An astonishingly small percentage of the diagnoses were correct, showing beyond a doubt that the condition when it does occur in children is not readily recognized owing either to the difficulty of interpreting the symptoms or to the infrequency of the disease.

The occurrence of malignant ovarian cysts in children and the impossibility of differentiating them from benign cysts before metastases or implantations occur emphasizes the importance of an early diagnosis and operation in all cases. The case reported in this article supports this statement as does also the experience of the following investigators. De Senety states that "it seems impossible to draw a line of demarcation between ovarian cysts and ovarian cancers;" Kelly says that "from a practical standpoint all ovarian tumors must be considered as malignant until removed and proved otherwise." Pozzi remarks that "it is much better to always take the worst view of the case and always to fear generalization." Hofmeier and Cohn have, too, layed much stress on the fact that "glandular cysts may present cancerous degeneration," and Leopold fearing this degeneration has given it as a general rule that every ovarian

tumor should be removed as soon as it is recognized. Bland Sutton quotes Jessup who once reported a case in which a ruptured dermoid cyst metastasized to the liver, the suprarenal capsule and the mesenteric glands.

As regards the frequency of the disease at the different periods of early life, the cases which I have tabulated reveal the fact that 60 per cent. occur between the age of ten and fifteen, while the cases ranging from birth to five years form but about 14 per cent. of the total number.

Two tumors simply reported as malignant ovarian tumors have not been included in the tables given below nor are the four carcinomata reported in Keating's Encyclopædia of Diseases of Children (p. 739) since the records contains no reference to age.

Table I—Type of Tumor According to Age.*

	Birth to 5 yrs.	5-9 yrs. incl.	10-15 yrs. incl.	Per cent.
Carcinoma	1	6	19	40
Sarcoma	8	10	18	55.4
Endothelioma	0	1	2	4.6
	13.8%	26.2%	60%	

In the table below the result of the operation has purposely been omitted inasmuch as the majority of the reports did not state whether the patient died as the result of operation, or as the result of the occurrence of metastases; also in those given as recoveries it was impossible always to determine the length of time after operation.

CONCLUSIONS.

- 1 Malignant ovarian tumors may occur in children.
- 2 In the first stages of the disease the clinical symptoms of the benign and malignant tumors are identical.
- 3 The tumor may be discovered accidentally or from symptoms arising from a rupture of the cyst or a twisting of its pedicle, which may be the first evidence of the presence of an ovarian tumor.
- 4 Children of all ages are susceptible to the disease although it occurs most frequently in children between ten and fourteen years.

* The figures here given cannot be regarded as conclusive for in many cases no microscopic examination was made.

5 All ovarian tumors should be regarded with suspicion because of the possibilities of malignancy.

6 Rupture of ovarian cyst should be guarded against because of the possibility of secondary implantations in the peritoneum.

7 Accurate classification of the mixed tumors is frequently impossible in the present state of our knowledge.

SUMMARY OF REPORTED CASES OF MALIGNANT OVARIAN TUMORS.

No.	Reporter	Age	Tumor	Reference
1	Brown, R.....	9mo	Carcinoma	See reference to case No. 35.
2	Harris,	22...	Endoth. Sarcoma...	Am Jour, Obst. 1904, L, 530.
3	Flatau.....	22mo	Sarcoma.....	Münch. Med. Wochenschr. 1903, 532.
4	Hoffman and Keyser	33mo	Cystic sarcoma.....	Am. Jour. Obst., 1897, XXXVI, 331.
5	Evers.....	^{yrs.} 2½	Sarcoma.....	St. Louis Courier of Med. 1884.
6	Gibb.....	2½	Myxo-chondro sarcoma.....	Glasgow Med. Jour. 1903, LX, 100.
7	Cameron.....	3½	Sarcoma.....	Glasgow Med. Jour. 1889 (4) S XXXI, 37-40.
8	Foerste.....	4½	Sarcoma.....	Am. Jour. Obst. 1896, XXXIII, 80.
9	Byford.....	4¾	Sarcoma.....	Chicago Med. Record 1891, II, 434.
10	Wiel.....	5	Carcinoma.....	Johns Hopkins Hosp. Bulletin, 1905, XVI, 102.
11	Viering.....	5	Sarcoma.....	See reference to case No. 31.
12	Page.....	6	Sarcoma.....	Lancet, 1895, II, 1622.
13	Turner.....	6	Sarcoma.....	See reference to case No. 31.
14	Cohn.....	6	Sarcoma.....	Ditto.
15	Croom.....	7	Sarcoma.....	Edin. Med. Jour. 1892-3, XXXVIII, 689.
16	Lucas.....	7	Sarcoma.....	Presse, Med. 2 Mai, 1888.
17	Amann, Jr.....	7	Endoth. Lymphaticum.....	Arch. f. Gynäk, XLVI, 493.
18	Gussenbauer.....	8	Carcinoma.....	Wiener Med. Wochenschr. 1894, 47.
19	Stolypinski.....	8	Sarcoma.....	See reference to case No. 31.
20	Chenoueth.....	8	Carcinoma.....	Ditto.
21	Leopold.....	8	Cystic Sarc.....	Arch. für Gyn. VI, 189.
22	Olshausen.....	8	Carcinoma.....	See reference to case No. 31.

No.	Reporter	Age	Tumor	Reference
23	Malius.....	9 yrs	Cystic sarc.....	Lancet, 1890, I, 1174.
24	Forbes.....	9 ..	Myxo-sarc.....	Australian Med. Jour., 1894, XVI.
25	Tanner, J. H.....	9 ..	Carcinoma.....	See reference to case No. 35.
26	Leopold.....	9 ..	Carcinoma.....	See reference to case No. 31.
27	McBurney.....	10 ..	Sarcoma.....	Annals of Surgery, 1895, XXI.
28	Emmett.....	10 ..	Malignant tumor...	Am. Jour. Obst. July 1881, XIV, 674.
29	Wagner.....	10 ..	Sarcoma.....	Arch. für Klin. Chir. XXX, 504.
30	Klebs.....	10 ..	Carcinoma.....	See reference to case No. 35.
31	Hubert.....	11 ..	Endothelioma Lymphaticum.....	Ueber Ovarial Geschwülte bei Kindern, Giessen, 1901.
32	Halliday Croom....	11 ..	Sarcoma	Obst. Trans. Edin. XIV.
33	Leopold.....	11 ..	Carcinoma.....	See reference to case No. 31.
34	Olshausen.....	11 ..	Carcinoma.....	See reference to case No. 31.
35	Kluge.....	11 ..	Sarcoma.....	Dissertation, Marburg, 1894.
36	Kelly.....	12 ..	Sarcoma.....	Keating's Encyclop. of Diseases of Children, 739.
37	Olshausen.....	12 ..	Carcinoma.....	See reference to case No. 31.
38	Wagner.....	13 ..	Sarcoma.....	Arch. für Klin. Chir. XXX, 505.
39	Wells.....	13 ..	Sarcoma.....	Diseases of Ovaries, N. Y. 1873, 56.
40	Martin.....	13 ..	Carcinoma.....	Krankheiten der Eierstöcke, 1899, 369.
41	Leopold.....	13 ..	Carcinoma.....	Gyn. Ges. Dresden, 12 Juli, 1894.
42	Leopold.....	13 ..	Sarcoma.....	Ditto.
43	Eckhardt.....	13 ..	Sarcoma.....	Deutsche Med. Wochenschr., 1895, Vereins Beilage, 14.
44	Demakis.....	13 ..	Carcinoma.....	Dissertation Göttingen, 1895.
45	Flaischlen.....	13 ..	Carcinoma.....	See reference to case No. 31.
46	Cohn.....	13 ..	Carcinoma.....	Ditto.
47	Mertens.....	13 ..	Sarcoma.....	Deutsche Med. Wochenschr., 1894, 96.
48	Bode.....	13 ..	Sarcoma.....	Gyn. Geselsch. Dresden. 12 July. 1894.
49	Schrooder.....	13 ..	Carcinoma.....	Zeitschr. für Geb. und Gyn. 1883, 9369.
50	Smith.....	14 ..	Sarcoma.....	Lancet, 1874, vol. II.
51	Leopold.....	14 ..	Sarcoma.....	Arch. für Gyn. VI.

No.	Reporter	Age	Tumor	Reference
52	Solger.....	14 yrs	Carcinoma.....	Beiträge zur Geburtshilfe und Gynäk, I, pg. 90.
53	Kaltenbach.....	14 ..	Carcinoma.....	See reference to case No. 31.
54	Muratoff.....	14 ..	Sarcoma.....	See reference to case No. 31.
55	Vonnegut.....	14 ..	Sarcoma.....	Dissertation, München, 1896.
56	Amann, Jr.....	14 ..	Endoth. Lymphaticum.....	Gesellch. f. Geb. u. Gynäk zu München, 21 Jan. 1897.
57	Thornton.....	15 ..	Carcinoma.....	Med. Times & Gazette, London, 1883.
58	Dyonsten and Szabo.	15 ..	Carcinoma.....	Arch. für Gyn. XXXII, 194.
59	Koeberle.....	15 ..	Carcinoma.....	Gaz. Med. de Strassburg, 1875.
60	Geyer.....	15 ..	Carcinoma.....	Dissertation, Würzburg, 1897.
61	Bergesio, L.....	15 ..	Cysto-sarcoma.....	Osservatore Torenese, 1883, p. 529.
62	Hanks.....	15 ..	Cystic Carcinomatous Degeneration....	Am. Jour. Obst., 1891, XXIV, 941.
63	Dembo.....	15 ..	Cystic Carcinomatous Degeneration....	Dissertation, Berne, 1892.
64	Kratzenstein.....	15 ..	Sarcoma.....	Zeitschr. f. Geb. u. Gyn., XXXVI, 93.
65	Pick.....	15 ..	Sarcoma.....	Centralbl. für Gynäk 1894, 941.
66	Shatz.....	15 ..	Carcinoma.....	Corresp. Blatt. des Allg. Mecklenburg, Aertzte Vereins No. 106.

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BENDER HYGIENIC LABORATORY.

Annual Report of the Director, for the Year Ending August 31, 1905.

By RICHARD M. PEARCE, M. D.

To the Trustees of the Bender Hygienic Laboratory:

I have the honor to submit my report for the year ending August 31, 1905.

The Work of the Laboratory. This may be conveniently divided into routine examinations, under-graduate teaching, instruction to special students and original investigation.

The nature of the routine work of the laboratory is shown in the accompanying table which gives the source of the material and the number and character of the examinations, Mr. Wachter's tabulation of his chemical and bacteriological examinations, made at the filtration plant, have been included in his annual statement to the Water Bureau of the City of Albany and do not appear in this report.

TABULATION OF THE ROUTINE EXAMINATIONS MADE BY THE STAFF OF THE BENDER LABORATORY FROM SEPTEMBER 1, 1904, TO AUGUST 31, 1905.

	State Dept. of Health.	City Board of Health.	Albany Hospital.	St. Peter's Hospital.	Ellis Hospital, Schenectady.	Child's Hospital and St. Margaret's House.	Albany Orphan Asylum.	Coroner's Physicians.	All other sources.	
Autopsies.....			30	3	3	21	4	28	40	120
Surgical specimens.....			945	184	61	5	1		75	1,271
Throat cultures.....	888	407								1,295
Sputum.....	458	45	1			1			30	535
Widals.....	143		86	17			1		39	288
Water, milk and ice.....	376								32	408
Miscellaneous.....	7		65	11		5	1		68	157
	1,872	452	1,127	215	64	34	7	28	284	4,083

These figures show a very satisfactory increase in the work in pathology, but a slight decrease in the number of bacteriological examinations. There is, however, an increase over last year of three per cent. in the total number of examinations. The greatest increase has been in the number of surgical specimens,

which show an increase of 26.7 per cent. over last year. This is largely due to the fact that the laboratory now does the work of the St. Peter's Hospital, of Albany, and the Ellis Hospital, of Schenectady.

The laboratory courses during the past year (term of seven and a half months) to undergraduates of the Albany Medical School were as follows:

Pathology and bacteriology.—Drs. Pearce, Stanton, Winne and Sibley, eight and a half hours a week.

Normal histology.—Drs. Stanton and Boyd, six hours a week.

Clinical microscopy.—Drs. Laird and Sibley, two and a half hours a week.

Surgical pathology.—Drs. Elting and Carey, two and a half hours a week.

Histology and pathology, in connection with the course in obstetrics.—Drs. Lipes and Boyd, two and a half hours a week.

Anatomy and pathology of the nervous system.—Drs. Stanton and Boyd, one and a half hours a week.

In connection with the course in pathology the most serious need is some arrangement by which post-mortem examinations may be made before the entire class. At present, this instruction can be given only to small sections at irregular intervals. It would appear possible, by combined action of the Albany Hospital, the faculty of the Albany Medical College and the trustees of the Bender Laboratory, to arrange for proper facilities at the Albany Hospital. I respectfully suggest to the trustees the necessity of immediate action upon this question.

Physicians who have availed themselves of the opportunity to work in the laboratory for considerable periods of time are Dr. R. Fletcher Van Heusen of San Francisco, Dr. Ellice McDonald of New York, Dr. C. G. McMullen and Dr. W. P. Faust of Schenectady, and Drs. J. A. Cox, J. A. Lanahan, J. A. Sampson, J. F. Rooney, A. J. Douglas, A. T. Hull and K. D. Blackfan of Albany. Undergraduates having similar privileges were Messrs. J. L. Donnhauser, Erastus Corning, Jerome Myers, E. W. Jackson, J. H. Linden, J. F. Robinson, S. P. Brush, R. A. Lawrence and F. C. Conway, students of the Albany Medical School, and Mr. Nelson Fromm, of Dartmouth Medical College. These gentlemen have assisted in the routine work of the laboratory, pursued special lines of study or engaged in research work.

Investigations completed during the past year are as follows:

1. STANTON, E. MACD., The Sequence of the Pathologic Changes in Appendicitis.—*Journal of the American Medical Association*, 1905, *xliv*, 1849.

2. BALDAUF, LEON K., Cancer of the Appendix Vermiformis, with Report of Three Cases.—ALBANY MEDICAL ANNALS (*in press*).

3. CORNING, E., Retention Cyst and Diverticulum of the Appendix Vermiformis.—ALBANY MEDICAL ANNALS (*in press*).

4. LAIRD, A. T., The Elimination of Endogenous Uric Acid in Cases of Chronic Gout.—*American Medicine*, 1905, *x*, 315; ALBANY MEDICAL ANNALS, *xxvi*, 742.

5. PEARCE, R. M., Experimental Cirrhosis of the Liver.—*Journal of Experimental Medicine* (*in press*).

6. PEARCE, R. M., and STANTON, E. MCD., Experimental Arteriosclerosis.—*Journal of Experimental Medicine* (*in press*).

7. STANTON, E. MCD., Actinomycosis Limited to the Urinary Tract.—ALBANY MEDICAL ANNALS, *xxvi*, 738.

8. DONHAUSER, J. L., Malignant Ovarian Tumors in Children with Report of a Case.—ALBANY MEDICAL ANNALS (*in press*).

9. McDONALD, E., The Various Forms of Puerperal Sepsis with Report of Cases.—*American Medicine* (*in press*).

Other investigations not yet completed are:

A Study of the Effect of Haemolytic Sera upon the Blood and Blood-forming Organs by Dr. C. K. WINNE, JR; A Study of the Action of Toluyldiamin upon the Blood and Blood-forming Organs by Mr. J. L. DONHAUSER; and a Study of Sarcoma of the Uterus by Dr. ELLICE McDONALD.

The expense of the experimental work has been defrayed by a grant from the Rockefeller Institute for Medical Research; a similar grant has been obtained for the ensuing year.

LABORATORY CLUB. During the past year an organization known as the Laboratory Review Club has been formed. This includes the regular staff and all instructors giving courses in the laboratory. Its object is to cover, in the form of general reviews, a few of the important lines of work in scientific medicine. These reviews are afterwards published in the ALBANY MEDICAL ANNALS. Physicians and students doing special work in the laboratory are invited to attend these meetings so that an average attendance of twelve to fifteen has been the rule. This club has been so enthusiastically supported

by all members and its advantages are so evident that it will be made a permanent organization.

CHANGES IN THE STAFF. Dr. E. MacD. Stanton and Dr. Chas. K. Winne, Jr., who were reappointed as regular assistants, and Dr. E. F. Sibley, who volunteered as assistant without salary for one year, have constituted the laboratory staff for the past twelve months. To the conscientious and earnest efforts of these gentlemen is due in large part the present efficiency of the laboratory in all lines of work. To Dr. Sibley we are especially indebted for time and labor given without substantial recompense. Dr. Stanton, having received an appointment at the St. Mary Hospital of Chicago, resigned in June. Dr. Leon Kahn Baldauf (Johns Hopkins University, A. B., 1901; M. D., 1905) has been appointed his successor. Dr. Winne resigned September 1st to enter private practice in Albany and in his stead Dr. Kenneth D. Blackfan (Albany Medical College, M. D., 1905) has been appointed. On September 1st, Dr. Sibley also terminated his connection with the laboratory in order to become an assistant to Dr. A. W. Elting.

The great increase in all departments of our work has led to the creation of three new positions. The first of these, an assistantship in Neuro-Pathology, was made possible through the generosity of Dr. Henry Hun. To this position has been appointed Dr. La Salle Archambault (Albany Medical College, M. D., 1902), who enters upon his duties after two years special study of neurology in the laboratories and clinics of Europe. The second position, that of assistant in Surgical Pathology, is the result of the generous cooperation of Drs. Albert Vander Veer and Willis G. Macdonald. To this position has been appointed Dr. Harold Eugene Robertson (Carlton College, A. B., 1899; University of Pennsylvania, M. D., 1905).

The third new position, that of Pathological House Officer to the Albany Hospital, is the natural result of the great increase in laboratory work of the latter institution. Although the incumbent of the position is appointed by the Board of Governors of the Albany Hospital at the recommendation of its staff, and is therefore an officer of the hospital, it appears justifiable, as the greater part of his work will be in the Bender Laboratory, to consider him as an assistant in the latter institution. Dr. William M. Dwyer (Albany Medical College, M. D., 1905) has been appointed by the Board of Governors of the hospital to fill this position during the year ending June 1, 1906.

The influence which these changes will have upon the work of the laboratory cannot be estimated. The staff for the past two years has been quite inadequate. The great variety and amount of our routine work including as it does, teaching, examinations for state and city boards of health, the autopsy work and the examinations of the surgical material of the various hospitals of this vicinity and the prosecution of special investigations has taxed the staff to its utmost and not infrequently has caused considerable embarrassment. Such difficulties, however, will be avoided by this increase in the staff.

Through financial assistance afforded by the Albany Medical College, the janitor service has been increased and this very important service is now highly satisfactory.

Mr. Leonard M. Wachter was reappointed for the year 1905-'06 as assistant chemist and bacteriologist, in charge of the Albany filtration plant.

IMPROVEMENTS, REPAIRS, ETC. These have been entirely practical and are not of great importance. The small room off the large class room has been transformed into a museum. Here has been formed the nucleus of a museum of gross pathology. On the first floor new quarters have been built and furnished for the janitor. Speaking tubes and call bells have been installed, thus obviating much unnecessary confusion and expediting the work. A set of framed bacteriological plates have been placed in the class room. During the past summer the usual amount of repairing, painting and varnishing of wood-work has been done. The building is in excellent condition and I have now nothing to suggest in the way of repairs or improvements.

Of great advantage has been the space regained by the removal of the State Antitoxin Laboratory. Of the four rooms thus vacated two are now devoted to general laboratory purposes, one has been fitted up as an operating room and the fourth has been reserved for Dr. H. C. Jackson, recently appointed Adjunct Professor of Physiological Chemistry in the Albany Medical School. Although Dr. Jackson's classes will be held in the new laboratory at the Medical School buildings, it seems advisable, owing to the many advantages offered by the Bender Laboratory and also on account of the proximity to the city and county hospitals, that space and facilities for research work be given him in this laboratory.

Editorial

I have scant sympathy with the plea of insanity advanced to save a man from the consequences of crime, when, unless that crime had been committed, it would have been impossible to persuade any responsible authority to commit him to an asylum as insane. Among the most dangerous criminals, and especially among those prone to commit this particular kind of offense, there are plenty of a temper so fiendish or so brutal as to be incompatible with any other than a brutish order of intelligence, but these men are nevertheless responsible for their acts, and nothing more tends to encourage crime among such men than the belief that through the plea of insanity or any other method it is possible for them to escape paying the just penalty of their crime.

THEODORE ROOSEVELT.



Paralysis Agi- tans and the Parathyroid Glands

During the last two years attention has been directed to the parathyroid glands, which have heretofore not been regarded as of particular significance. The discoveries of the metabolizing functions of the various ductless glands have been of so great value that every structure of this kind has certain possibilities which merit investigation. In the ANNALS of January, 1905, an abstract was given from an article by Lundborg upon the researches made up to that time. He was especially interested in a condition he described as hypoparathyroidisms. He believed that the parathyroid glands regulate the tone of the muscles or of the neuro-muscular system, and bear a compensatory relation to the thyroid gland. Among the diseases in which a defect of the parathyroids might be assumed, he mentions paralysis agitans.

Another communication upon this subject has recently been made by Berkeley (*Medical News*, December 2, 1905). Dr. Berkeley reports the results of some experimental work, both upon animals and in the use of the thyroid substance therapeutically. The work is incomplete and only suggestive, but enough has been done to warrant investigation in this line in the hope that a way may be found for the relief of paralysis

agitans, which up to this time has been an utterly intractable disease.

Berkeley found that the surgical removal of one, two or three parathyroids from a cat or a rabbit produces no signs except hypertrophy of the gland or glands remaining. The subsequent removal of the glands left behind, or the removal of all at one time, is followed in twenty-four to forty-eight hours by salivation, trachycardia, tremors and rigidity of the muscles, convulsions, albuminuria, enormously hurried breathing, entire loss of appetite, and rapid emaciation, the animal dying on the average in from two to ten days. Post-mortem there are no constant gross lesions.

During the past year Berkeley has found opportunity to administer a physiologically tested gland to eleven cases of shaking palsy in all grades of advancement.

The initial dose of the powdered gland is one-twentieth grain two to four times a day, preferably in capsule; larger doses appear to produce weakness, constipation, "nervousness," and even an exaggeration of the symptoms of the disease. The first good effects in the cases treated were noted as a rule only after fifty to seventy-five capsules had been taken—two or three weeks after beginning treatment.

To sum up the therapeutic results in these cases, the remedy has been more or less fairly tried with eleven patients; of these, nine were helped, the earlier cases were greatly helped, and one patient, a very early case, considered himself nearly entirely relieved while under the influence of the drug. One patient reported that the tremors most recently appearing in the course of his case were much more perfectly relieved than those of longer standing.

When a more perfect form of medication has been devised—a hypodermic extract, or even a grafting of the gland itself from one human being to another—the results may be much more encouraging.

Little Biographies

I. HEROPHILUS THE CHALCEDONIAN.

HEROPHILUS was born in the Bithynian city Chalcedon, situate nearly opposite Constantinople in Asia Minor. The year of his birth, as well as that of his death, is not known; the active period of his life was spent in Alexandria, during the reign of the first Ptolemy, B. C., 323-283. The renown of Alexandria as a centre of surpassing intellectual achievement is imperishable. Its Museum or College of Philosophy, created and fostered by imperial pride, attracted the most famous philosophers, teachers, poets and scientists of the time, and all lands were searched for contributions to its library, zoölogical and botanical gardens, observatories and collections of natural history. Among the immortals, the founders of the medical school, Herophilus and Erasistratus, were preëminent. That the Alexandrian Museum failed to venture into new paths, and merely elaborated and taught what was already known, has been the comment upon its claim to precedence. In pure mathematics, medicine and natural history this criticism is not valid. Euclid and Herophilus stood apart as original investigators; their work has borne the test of time and remains essentially unchanged to the present day.

The preceptor of Herophilus was Praxagoras, the last of the Asclepiads. From him the pupil may have had a touch of the semi-mystic theories of his theurgic guild. Herophilus, however, appears to have been intensely practical. From the fragments of his writings which have been preserved, and from references by Galen, Celsus, Aretaeus, Coelius Aurelianus, Pliny and others, he is shown to have maintained no secrecy, but to have searched diligently for facts. He was loth to criticize and occasionally fell into an obscure style of diction rather than to detract from the fame of his teacher.

Herophilus covered the whole field of medical study and medical practice. In anatomy his work is imperishable. He is reported to have dissected over seven hundred bodies, and it is said that living criminals were given over to him for experimentation. Many writers pronounce this statement incredible and the alleged practice inconsistent with the humanity of the era. But Tertullian couples it with the name of Herophilus in a

bitter invective: "Herophilus, that physician, or rather butcher, who dissected six hundred men, in order to find out nature; who hated man, in order to learn the structure of his frame; could not, by these means, come to a more perfect knowledge of his internal structure, since death produces a great change in all the parts, so as to render their appearance after death different from what it was before; especially, since they did not die a natural death, but expired amidst all the agonies to which the curiosity of the anatomist was pleased to subject them."

Herophilus differentiated the cerebrum and cerebellum, and described the meninges, the sinuses of the dura, the ventricles, the peripheral cranial and spinal nerves and the coats of the eye, two of which he designated respectively, the tunica arachnoides and the tunica retina. He recognized the confluence of sinuses which derived from him its name, "torcular Herophili." He named the calamus scriptorius, the duodenum, the chorioid plexuses, and he called the pulmonary artery the arterial vein. He analyzed the various structures of the circulatory system, and wrote upon the salivary glands, pancreas, liver and generative organs of both sexes. He distinguished the lacteals, but did not comprehend their function. He discussed the pulse and had an appreciation of its variations, and prepared treatises upon obstetrics, diet and probably upon therapeutics and materia medica, for which the opportunities given by the botanical collections of the Museum were excellent. He also published commentaries upon the Prognostics and Aphorisms of Hippocrates. He is believed to have been the first to extract a cataract. His remedial measures were vigorous. He used heroic doses and drastic purges; his compounds contained as many as three score simples. On this ground there existed a professional, though probably not personal, antagonism between Herophilus and his colleague Erasistratus. The bone of contention in medicine, it is interesting to note, is no younger than the art itself. Erasistratus was gentle, and prescribed abstinence, diet, regimen, bathing, friction and exercise, and used the simplest remedies, as barley water, oil and cuppings. Unfortunately for posterity a decision upon the relative value of the two methods does not seem to have been reached.

Herophilus was thus one of the greatest physicians of history. It may be questioned whether his work was inferior to that of Hippocrates. Galen called him a consummate physician, and Fallopius the evangel of anatomists. As the first to seek the causes

of disease after death, he is justly entitled to be regarded as the father of pathological anatomy. For centuries students flocked to the medical school he founded, and it was sufficient for the credit of any physician to say that he had studied at Alexandria.

J. M. MOSHER.

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Scientific Review

THE SPIROCHAETE PALLIDA (SCHAUDINN) IN SYPHILIS.

Since the recognition of syphilis as a disease *sui generis* and the overthrow of the old *Identitätslehre*, the efforts of many investigators have been directed toward the discovery of its cause.

From the beginning the feeling has been that the causal factor was a parasite of some sort, a feeling based on the small amount of infectious material necessary, its high co-efficient of infection and its gradual extension from the point infected. During the past twenty-five years no less than twenty-five different organisms have been reported as being the infective agent, which in itself testifies to the constant search for the cause of the disease. Among all these organisms the most important have been the ones described by Donnè and Lustgarten. In 1837 Donnè described a spirillum which he found in large numbers on the genitalia, in the secretions from mucous surfaces and in smegma. Gràce also found large numbers of spirilli in a chancre, but in an effort to confirm these findings Bordet and Geugon were not successful. It is of interest to note here that in one of their old preparations Metschnikoff and Roux were able to find the Spirochaete Pallida.

The bacillus of Lustgarten is of more recent date and it is not necessary to describe it in detail. It has not generally been accepted as the cause of syphilis. Within the past year Metschni-

koff and Roux, Neisser and others have been successful in inoculating apes with the virus of syphilis, experiments which have given an added impetus to the search for the infecting agent.

Early in the present year Siegel in examining the blood of patients in the acute stage of syphilis described a flagellate organism. He was successful also in finding the same organism in the blood of apes inoculated with syphilis.

They are described as minute pear-shaped flattened bodies 2μ in length and 0.5μ in thickness. They are actively motile, the motion being springing like in character. The pointed end appears flagellated and flexes rapidly during motion. They are very hard to see and he recommends for this purpose an apochromatic lens of a magnification of $\frac{1}{1000}$ or over. In stained preparations Siegel has demonstrated two nuclei in these bodies and has named them Cytoryktes Luis.

Merk has confirmed these findings in five cases of acute syphilis; he observed two nuclei and determined their method of division by fission. The presence of these bodies in the blood of syphilitics has not received general confirmation and their significance must as yet be considered *sub judice*. Schaudinn in looking for the Cytoryktes Louis of Siegel found another type of parasite which is apparently of much greater significance. Immediately following his discovery Schaudinn began a systematic study of all acute cases of syphilis in the clinic for skin diseases at the University of Berlin in conjunction with Hoffman, Privatdocent in the clinic. Schaudinn's original communication appeared in the *Arbeiten an der kaiserliches Gesundheitsamt*, Volume XX, page 527, access to which cannot be obtained. His second paper in collaboration with Hoffman describes the parasites found in the depth of freshly excised secondary papules and lymphatic glands in two cases. They are very delicate, spirally curved pointed bodies, of very low refractive index and actively motile. Their length is from $4-14 \mu$ and $\frac{1}{4} \mu$ thick. The spirals are corkscrew like and vary from six to fourteen in number. In fresh specimens it appears as a long spirally twisted thread with an undulating membrane, and in moving it revolves about its long axis. The thread-like form and undulating membrane places the parasite in the class of organisms known as spirochaete.

Spirochaete have been found previously in genital ulcers and

ulcerating lesions elsewhere. This form is known as the Spirochaete Refringens because of its high refractive index and strong affinity for the ordinary stains, but the organism described by Schaudinn can be distinguished from this form by its smaller size and delicate structure, low index of refraction and poor staining capacity. To distinguish their spirochaete from that commonly found, the Spirochaete Refringens, Schaudinn and Hoffman suggest the name Spirochaete pallida.

The above findings have received wide confirmation, more particularly in Germany and France, although positive results have been published in the Russian, Austrian, Italian, British and American journals. Up to the present time the organism has been found in the following lesions of acute syphilis, chancres genital and extra-genital, lymphatic glands, condylomata, papular and postular syphilides, psoriasis palmaris and mucous patches. In examining these lesions care was used to avoid surface contamination as much as possible. Chancres were excised, serum expressed and collected from the under surface, so also with the papular lesions. Condylomata were curetted and material then collected. In ulcerating lesions and mucous patches contamination is unavoidable, but here the spirochaete pallida may be differentiated from the spirochaete refringens by its appearance. The first positive finding in congenital syphilis was reported by Buschke and Fischer; the organism was found in the spleen and lymph glands. Babes and Panea also in a case of congenital syphilis found the spirochaete in the heart blood, larynx, lung, thymus, bone marrow, spleen, liver, kidney, suprarenal, conjunctival and arachnoidal fluid. Salmon, Livadite, Schridde and Bayer have also published positive results in congenital syphilis.

In tertiary lesions positive results are very few. Miste reports a positive result in an ulcerating lesion of the nose—infection eight years before and in an ulcerating gumma of the scalp—infection twelve years before. In their first efforts to find the spirochaete in apes inoculated with syphilis Metschnikoff and Roux and Kraus were not successful, probably because the animals presented lesions nearly healed and at the same time were under specific serum treatment. In recently inoculated apes, however, Metschnikoff and Roux were able to demonstrate a spirochaete in four of six cases and the preparations were sent

to Schaudinn, who identified the organism as the *Spirochaete pallida*.

In the circulating blood Raubetschek reports one positive result, Noeggerath and Stachelin three positive results. The latter advise the following method for demonstrating the spirochaete in the blood: Collect 1 cubic centimetre of blood and add 9 cubic centimetres of .33 per cent. acetic acid; centrifugalize and use the sediment. Since the organism does not stain readily several methods have been advised. Perhaps the method of Giemsa is the most satisfactory as it is simple, requires very little time and has given good results in the hands of many. The staining solution is prepared according to the following formula:

Azur II Eosin.....	3.0
Azur II.....	0.8
Glycerin	} — aa.....
methyl Alcohol		250.0

Stain as follows:

1. Fix absolute alcohol, 10 minutes.
2. Equal parts of stain and distilled water ten to fifteen minutes.
3. Wash under tap.
4. Mount in balsam.

Oppenheim and Sachs use a solution of alcoholic gentian violet (5 per cent. carbolic acid, 100.00, and concentrated alcoholic gentian violet, 10.00). The smear is covered with this solution, steamed over a flame, washed and mounted. Reitmann fixes the smear in absolute alcohol ten minutes, washes in distilled water, then into 2 per cent. phosphotungstic acid, five minutes, into 70 per cent. alcohol and distilled water. The smear is then steamed in carbol fuchsin, washed in water and decolorized in 70 per cent. alcohol, distilled water. Of how much significance the presence of the spirochaete is in the etiology of syphilis cannot be stated positively now.

The wide confirmation of the work of Schaudinn and Hoffman, the wide distribution of the spirochaete in acute syphilis, not only in the primary lesion but at a distance from it, its presence alone in organs and tissues that are free from surface contamination, in stained sections of such tissues, in the circulating blood and again its absence in a great variety of skin diseases, all point to a causal relationship between the organism

and the disease. The assumption that a spirochaete may be the cause of this disease is within the range of possibility and although comparatively little is known of the pathogenic rôle of this class of micro-organisms Schaudinn has shown that the Spirochaete Ziemmanni represents a stage in the life history of trypanosomes and possibly all spirochaete are. The trypanosoma Equiperdum is known to cause pathogenic infection in the horse and is transmitted directly through the mucous membrane, although more often by blood sucking flies. Kala Azar, the disease produced by the Leischmann-Donovan bodies, is transmitted by sexual contact.

The very character of these organisms, however, at present prevents the fulfillment of Koch's postulates in proving the spirochaete the true etiologic factor. So far it has been impossible to cultivate any of the known spirochaete and so their biological characters cannot be studied. For this reason too the presence of specific agglutinins cannot be proven. The three e. g. the presence of the spirochaete in every case of acute remaining postulates, however, have apparently been fulfilled, syphilis, its absence in other diseases, the transmission of the disease to lower animals and the presence of toxins, anti-toxins, etc.

The spirochaete pallida has already been accepted by many individual members of the medical profession, particularly in France. Its too precipitate acceptance is unwise in view of the facts of the case. Both Schaudinn and Hoffman have displayed a noteworthy conservatism in this respect and have not made any claims for their spirochaete beyond asserting its almost constant presence in the disease and have maintained this position too when their work has been constantly confirmed and enlarged. All that can be said at present is that there is apparently good ground for assuming an etiologic relationship between the Spirochaete pallida and syphilis.

W. H. CAREY.

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N. B.—Only the more important references are given. For a complete bibliography see collateral references in the above articles.

	1902		1903		1904		1905	
	Resi- dent.	Non- resi- dent.	Resi- dent.	Non- resi- dent.	Resi- dent.	Non- resi- dent.	Resi- dent.	Non- resi- dent.
St. Margaret's Home.....	1	1	0	0	0	0	2	1
St. Peter's Hospital.....	1	2	4	0	2	2	5	4
St. Vincent's Female Orphan Asylum	0	0	0	0	0	0	0	0
Home for Aged Men.....	0	0	0	0	1	0	0	0
Dominican Convent.....	0	0	0	0	0	0	0	0
Penitentiary	0	0	0	0	0	0	0	0
Sacred Heart Convent.....	0	0	0	0	0	0	0	0
Child's Hospital.....							1	1
Births								65
Marriages								53
Still births.....								9

PLUMBING INSPECTIONS.

In the Bureau of Plumbing, Drainage and Ventilation, there were 218 inspections, of which 129 were of old buildings and 89 of new buildings. Forty-six iron drains were laid, 21 connections with street sewers, 23 tile drains laid, 2 urinals, 52 cesspools, 62 wash basins, 64 sinks, 56 bath tubs, 46 wash trays, 10 trap hoppers in yard, 82 tank closets and 1 horse trough. There were 139 permits issued, of which 105 were for plumbing and 34 for building purposes. There were 33 plans submitted, of which 14 were of old buildings and 19 for new buildings. There were 10 houses tested on complaint. Three with blue-red and 7 with peppermint. There were 15 water tests. Sixty-five houses were examined on complaint and 27 re-inspections. Fifty-two complaints were found valid and 13 without cause.

BUREAU OF CONTAGIOUS DISEASES.

Cases Reported.

	1901	1902	1903	1904	1905
Typhoid fever.....	4	4	5	4	7
Scarlet fever.....	5	5	7	17	21
Diphtheria and croup.....	90	48	31	12	16
Chickenpox	7	12	3	16	7
Measles	5	1	2	1	2
Whooping-cough	0	2	1	0	0
Consumption	0	0	0	3	2
Totals	111	72	49	53	55

CONTAGIOUS DISEASE IN RELATION OF PUBLIC SCHOOLS.

	Reported		Deaths. D. S. F.
	D	S. F.	
Public School No. 1.....		1	
Public School No. 2.....	1		
Public School No. 3.....		2	

	Reported		Deaths.	
	D.	S. F.	D.	S. F.
Public School No. 4.....		I		
Public School No. 6.....	2			
Public School No. 9.....	2			
Public School No. 12.....	I	I		
Public School No. 21.....				4
Public School No. 22.....	I			
New York State Normal College.....				2
Albany Boys' Academy.....	I			
Albany Law School.....	I	I		
St. John's School.....	I			

Number of days quarantine for diphtheria:

Longest, 37; shortest, 9; Average, 21 11-15.

Number of days quarantine for scarlet fever:

Longest, 50; Shortest, 15; Average, 29 7-8.

Fumigations:

Houses, 27; Rooms, 54.

Cases of diphtheria reported.....	16
Cases of diphtheria in which antitoxin was used.....	15
Cases in which antitoxin was not used.....	I
Deaths after use of antitoxin.....	0

Medical News

Edited by Arthur J. Bedell, M. D.

THE ALBANY GUILD FOR THE CARE OF THE SICK.—STATISTICS FOR NOVEMBER, 1905.—Number of new cases, 112; *classified as follows*: dispensary patients receiving home care, 5; district cases reported by health physicians, 10; charity cases reported by other physicians, 42; patients of limited means, 55; old cases still under treatment, 43; total number of patients under nursing care during the month, 155. *Classification of diseases* (new cases): medical, 31; surgical, 6; obstetrical work of the Guild, 35 mothers and 31 infants under professional care; dental, 1; skin, 1; throat and nose, 5; contagious diseases in medical list, 3; removed to hospital, 3; deaths, 10.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 1; attending obstetricians, 1; students in attendance, 2; Guild nurses, 1; patients, 1; visits by attending obstetricians, 1; by the medical students, 9; by the Guild nurses, 8; total number of visits in this department, 24.

Visits of Guild Nurses (all departments): number of visits with nursing treatment, 1,011; for professional supervision of convalescents, 209. Five graduate nurses and 4 assistant nurses were on duty. Cases were reported to the Guild by two of the health physicians and by thirty other physicians and three dentists.

UNION COLLEGE ALUMNI ASSOCIATION OF NEW YORK.—The annual reunion and dinner of the Union College Alumni Association of New York was held at the Hotel Manhattan, New York City, December 14, 1905. President A. V. V. Raymond announced that Andrew Carnegie had offered to donate the sum of \$100,000 for equipping the building to be devoted to electrical engineering at Schenectady, N. Y., provided the college raised another \$100,000 to endow the school.

CONSOLIDATION OF THE STATE MEDICAL SOCIETIES.—On December 14, 1905, representatives of the State Medical Society and the State Medical Association met in the Albany Medical College and effected the consolidation of the two organizations, authorized under the law passed last winter by the Legislature. The organization will hereafter be known as the State Medical Society, and will hold its annual meeting in Albany on January 30 and 31, and February 1, 1906.

CIVIL SERVICE EXAMINATIONS FOR THE STATE AND COUNTY SERVICE.—The State Civil Service Commission announces examinations to be held on January 13, 1906, for the following positions in the State and county service:

Abstract clerk, Onondaga county clerk's office; assistant in microscopy, Cancer Laboratory, Buffalo, \$720; carpenter, State Industrial School, Rochester, \$50 a month; steam engineer and assistant in State hospitals, departments and institutions in the county service of Albany, Erie, Monroe, Onondaga and Westchester counties; foreman of fish hatchery, \$1,080; inspector of records and accounts, State Board of Charities, \$1,200 to \$1,400; matron, Craig Colony, \$720 to \$900; milk expert, Department of Agriculture, \$800 to \$1,000; male officer, State institutions, \$540; woman industrial teacher, State Custodial Asylum, Newark, \$360 and maintenance; physical instructor, State institutions, \$540 to \$1,200; sanitary agent, Department of Agriculture, \$5 a day.

The last day for filing applications is January 8th. Application forms and detailed information may be obtained by addressing the Chief Examiner of the Commission at Albany.

COMMUNICATIONS TO THE HOSPITALS OF GREATER NEW YORK.—The Committee on Hospital Needs and Hospital Finances of the Association for Improving the condition of the Poor, appointed on March 23, 1905, have submitted a preliminary report.

This committee includes John E. Parsons, Seth Low, John W. Brannan, and Dr. John A. Wyeth.

The report of the subcommittee on economy refers especially to important items with regard to which economy would in the average hospital be not only easy but would seem easy. They suggest the adoption of less expensive materials and methods than those commonly used, which we are assured can be done without lessening efficiency.

There should be one executive officer of an institution, with authority to enforce methods which, without in any way endangering efficiency, would insure a minimum of expenditure, and that where the best results are obtained by simpler and less expensive methods, these methods should be promptly adopted.

The sub-committee on accounting and reporting have made extensive and comprehensive schedules.

The sub-committee on hospital support agree that there is a general want of knowledge in the public mind with regard to the functions and work of the private hospitals, so called. That as the result of such lack of knowledge, the hospitals receive financial support from only a very limited number of people in comparison with other forms of charitable work. That there would be an enlargement of the number now contributing, if the facts relative to the hospital work were appreciated by the general public. That the situation is liable to grow worse instead of better by reason of the constantly increasing number of private hospitals, and that by organization and educational work with the community, will prove its own right to financial support.

This committee also publish a complete report of all the hospitals in Manhattan and the Bronx.

EPILEPSY PRIZE.—At the fifth annual meeting of the National Association for the Study of Epilepsy, held in the Academy of Medicine, New York City, on November 29, last, Dr. W. P. Spratling, President, announced that the association offered a prize of \$300 for the best essay on the etiology of epilepsy.

Physicians in any country may compete for this prize. The award will be made in November, 1906, but all essays submitted must be sent in by September 1st of that year.

Details as to conditions governing the award may be obtained from Dr. Spratling, Superintendent of the Craig Colony for Epileptics, Sonyea, Livingston county, N. Y.

FOOD IN HEALTH AND DISEASE.—Messrs. Lea Brothers & Co. announce publication early in January, 1906, of a work with this title, by Robert F. Williams, M. A., M. D., Professor of Principles and Practice of Medicine in the Medical College of Virginia, Richmond.

AMERICAN JOURNAL OF CLINICAL MEDICINE.—With the January issue of the Alkaloidal Clinic the name is changed to the American Journal of Clinical Medicine. The present editorial force and management continues with the addition of Dr. Wm. J. Robinson of New York City, who will conduct a department of Dermatology and Genitourinary Diseases; and Dr. Emory Lamphear of St. Louis, who will conduct a department of Surgery, Obstetrics and Gynecology, and other departments will be added as arrangements can be made therefor.

SAUNDERS' CATALOGUE.—The ANNALS has received from W. B. Saunders & Co., of Philadelphia, an unusually attractive illustrated catalogue of their complete list of publications. A copy will be sent free upon request to the publishers.

ENGAGEMENT.—**SHAW-BURRELL**—Mr. and Mrs. E. J. BURRELL announce the engagement of their daughter, Miss SUSANNE S., to Dr. HENRY LARNED KEITH SHAW (A. M. C., 1896) of Albany, N. Y.

PERSONAL.—DR. JESSE M. W. SCOTT (A. M. C., '96) after serving eight years in the Matteawan State Hospital, the last three years as assistant superintendent, has started in private practice at No. 602 Union street, Schenectady, N. Y.

DEATHS.—DR. LEVI WOOD (A. M. C., '65) died recently at Ephratah, Fulton County, N. Y., aged 62. He is survived by one son and two daughters.

—DR. J. A. SMEALLIE (A. M. C. '79) died at Cass Lake, November 25, 1905, aged 52 years.

IN MEMORIAM

LEVI WOOD, M. D.

Dr. Levi Wood, aged 62 years, died recently at his home at Ephratah. For the past two years he had suffered with Bright's disease, but had been able to attend to his practice until September, when his condition became such that he was confined to his house. He gradually failed until death came.

Dr. Wood was born at Ephratah, the son of Dr. Henry Wood, a practicing physician of that place. After obtaining a preparatory education, he entered the medical academy at Pittsfield, Mass., but completed his course and graduated at the Albany Medical College in 1865. He practiced for a time at Fonda, but later formed a partnership with his father and removed to Ephratah, where he has practiced continuously since. He was a physician of skill and ability, and enjoyed a large practice throughout the vicinity where he resided. He was a man of keen intellectuality and deeply interested in all that was for the public advantage. He was a life long Republican, and although he never filled a public office, he was eager that the best men should be selected to serve the township. In private life he was genial and sociable, and numbered among his friends a very large circle of acquaintances. He was a member of Caroga Lodge, F. & A. M.

In 1871 he married Miss Elmira Keith, who died in 1901.

He is survived by a son, Charles Wood, of Ephratah, two daughters, Mrs. Everett Stephenson, of Schenectady, and Mrs. John Rickard, of Ephratah, and one sister, Mrs. Oliver Getman, of Johnstown.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

Handbook of Anatomy. Being a Complete Compend of Anatomy, Including the Anatomy of the Viscera and Numerous Tables. By JAMES K. YOUNG, M. D. Second edition, revised and enlarged, with 171 engravings, some in colors. Philadelphia: F. A. Davis Company, Publishers, 1905.

This volume is an abridged "Gray's Anatomy," with addition of illustrations, charts and tables from other recognized anatomists. It is a little larger in size than the ordinary "compend," has larger type, larger cuts and charts and very good illustrations of the arteries (in red).

The chapters on the "Organs of Special Sense" are more thorough than those usually in compends; the concluding chapter is devoted to "Surgical Anatomy" and considers the anatomical structures met with in operations in the neck triangles, elbow, upper thigh, axilla, popliteal space, inguinal, ischio-rectal regions and perineum.

The medical student usually wants a complete anatomy, such as a "Gray" or a "Morris." If he uses a compend at all, he wants a small-sized edition [which mentions important details] to be used to reinforce his memory. Young's volume admirably fills the field for which he intends it, but the book will not supplant the complete anatomy or the quiz-compend.

A. H.

The Surgical Assistant. A Manual for Students, Practitioners, Hospital Internes and Nurses. By WALTER M. BRICKNER, B. S., M. D. Published by the International Journal of Surgery Co., Medical Publishers, 100 William street, New York City.

This is an octavo volume of 363 pages, with many appropriate original illustrations. The paper, printing and workmanship are good. Dr. Brickner has been associated with several of the best New York surgeons at the Mt. Sinai Hospital and has designed this book as "a helpful guide—to the student preparing for hospital examinations; to the hospital interne who, early in his service, unfamiliar as yet with surgical technique or even with the names and forms of many surgical instruments, is, for a time, embarrassed by the awkwardness of his untutored hands and the slowness of his untrained eye; to the trained nurse who finds herself in private practice confronted with preparing a room for an operation and very often with assisting in the operation itself; and to the general practitioner, as a volume of reference to aid him in maintaining a large share in the treatment of those of his patients who otherwise would pass from him entirely into other hands." The writer has succeeded admirably in giving many lucid, concise and helpful suggestions; his style is not labored and his diction is refreshing.

Part I treats of the relations of surgeon, assistant and nurse; the hospital interne; assistance in examinations and dressings; preparations for an operation; the room, the patient, the anæsthetist; preparation and

preservation of surgical instruments and accessories; "handing of instruments;" assistance at the wound, and the immediate post-operative care of the patient.

Part II treats of the different operations regionally. Appendix I describes the preliminary and routine after-treatment of operative cases, also the preparation of surgical materials. Appendix II gives illustrations of surgical instruments.

The remarks on the conduct of the assistant are particularly appropriate. The chapter on the immediate post-operative care of the patient contains besides many helpful suggestions, the enumeration, diagnosis and treatment of emergencies, giving in detail the methods of controlling hemorrhages in every region of the body.

We would suggest that a short, clear history outline should be added to Chapter II; that in Chapter III the spica bandage illustrated would be too short to prevent motion at the hip joint. (This is frequently an important indication for the use of this dressing.) In such cases the spica should extend as high on the thorax as the ninth or tenth rib; that if *very hot water* is used in wetting plaster of Paris bandages, instead of "lukewarm water," the plasters will set quicker and firmer; that the new plaster cutting forceps is the best instrument for removing plaster of Paris dressings; that it is poor technic for any operator or assistant to put on a rubber blanket, cover this with a sterile gown, don a mouth mask and a sterile cap, draw on sterile rubber gloves and start to operate with his bare arms exposed from the top of his gloves to the edge of his gown sleeves, which end above the elbow, as pictured in figure 22. It would be better to have these sleeves long enough to be tucked into the top of the glove. The subcutaneous method of suturing the skin deserves mention and illustration.

As a whole this little work is highly commendable and should be accessible to every interne or member of a resident house staff. A. H.

A Text-Book of Physiology. By WINFIELD S. HALL, M. D. Second edition, revised and enlarged. Philadelphia and New York: Lea Brothers & Co., 1905.

The second edition of this work, which appears six years after the first, has been carefully revised and considerably enlarged. The author, as in the first edition, closely associates the physics, chemistry and biology of each subject considered. The details of histological structure are more complete than is the rule in text-books of physiology. A new departure, and one which we do not remember having seen in any work on physiology, except Professor Landois' "Lehrbuch der Physiologie des Menschen," is the addition of sub-chapters on pathologic physiology. This is a very laudable effort to form a bridge between physiology and the practice of medicine and in this work is more methodically planned than in Landois' treatise.

Such treatment of a subject is of great value in explaining the symptomatology of a disease, but as it necessitates also a discussion of etiology and pathological anatomy, it places an unusually heavy burden on those

students who study physiology in the first year of the medical course. For students farther advanced and for practitioners it is a most excellent arrangement and by such will undoubtedly be greatly appreciated. The work is freely illustrated, 340 engravings and three colored plates in a volume of 795 pages, and is arranged in a methodical manner, with very complete summaries preceding each section.

It is the most interesting of American text-books of physiology and should, for this reason and because of its comprehensive scope and practical character, become most popular.

R. M. P.

A Manual of Practical Hygiene. By CHARLES HARRINGTON, M. D. Third edition, revised and enlarged. Philadelphia and New York: Lea Brothers & Co., 1905.

In the preparation of the third edition of this well-known book, the author has replaced obsolete matter with material in accordance with present knowledge in a most satisfactory manner. Indeed, so excellent was the character of the first edition of this treatise when it appeared in 1901 that few changes, other than those demanded by new investigations, have been necessary in the succeeding editions. The most important change in the present volume is the addition of a very excellent chapter devoted to Infection, Susceptibility and Immunity.

The work remains the best presentation which we have, in the English language at least, of general hygiene.

Although the volume contains 793 pages and several new illustrations, it is by some magic of type or paper of less bulk than the first edition of 729 pages. The able and amiable Secretary of the Massachusetts State Board of Health is apparently as capable of "squeezing" information as he is of "squeezing" adulterators of food and drink, and with as little ostentation.

R. M. P.

A System of Physiologic Therapeutics. A Practical Exposition of the Methods, other than Drug-giving, Useful in the Treatment of the Sick and in the Prevention of Disease. Edited by SOLOMON SOLIS COHEN, A. M., M. D. Volume XI. *Serum Therapy*, by JOSEPH MCFARLAND, M. D. *Organotherapy*, by OLIVER T. OSBORNE, M. A., M. D. *Radium, Thorium and Radio-Activity*, by SAMUEL G. TRACY, B. S. C., M. D. *Counterirritation, External Applications, Bloodletting*, by FREDERICK A. PACKARD, M. D. *An Outline of the Principles of Therapeutics, with Especial Reference to Physiologic Therapeutics*, by the Editor. With Addendum on X-Ray Therapy and an Index-digest of the Complete System of Eleven Volumes. Illustrated. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street, 1905.

This volume completes the "System," begun in 1901, which may be said to have fulfilled its mission. In the series are included discussions for practical instruction in electrotherapy, climatology, hygiene and nursing, dietetics, mechanotherapy, mental therapeutics, suggestion and rest, hydrotherapy and phototherapy, pneumotherapy and the topics of the

present volume. There are thus described numerous methods of present-day practice, some of which may be regarded as fashions of medicine, to undergo modification or to be abandoned as experience grows. The authors have each exploited their special fields, and the papers are comprehensive. A generous index in this volume facilitates reference. The therapeutic skeptic may wonder whether the "physiological" alternatives offer more attractive and more rational promise of success than the drugs so often regarded with contempt.

Diseases of the Heart and Aorta. By THOMAS E. SATTERTHWAITE, M. D., Professor of Medicine in the New York Post-Graduate Medical School; Consulting Physician to the Post-Graduate Orthopedic and Babies' Hospitals; President of the Medical Association of the Greater City of New York. E. R. Pelton, 19 East Sixteenth Street, New York City.

This volume is based on a series of articles that originally appeared in various medical periodicals. One of the chapters, "Pulsus Infrequens," was published in the *ANNALS* for March, 1903. These papers have been carefully revised and with the addition of new chapters form a fairly complete work on the diseases of the heart and aorta.

The author has had unusual opportunities for seeing the clinical and pathological aspects of these diseases, and especially for studying the relation of clinical signs to post-mortem appearances. Abstracts of the clinical histories and autopsy protocols of illustrative cases are freely used.

In the chapter on diagnosis the author refers to the use of the X-ray as a means for accurately determining the outline of the heart, and suggests a convenient method for representing by diagram the borders of the heart as determined by percussion. The discussion of the various valvular lesions is quite complete. Special attention is called to the relation of the strong cardiac impulse to a weak radial pulse as a sign of mitral obstruction. The heart of mitral regurgitation is characterized as the "large and the long heart." In the discussion of myocardial affections a plea is made for the retention of the term "Carditis," introduced by Corvisart, which included diseases of the heart muscle, interstitial tissue and vessels, and is now quite generally replaced by the term "myocarditis," a term that actually refers only to muscle inflammation.

The question of treatment receives careful attention. Beside the therapeutic measures given in the chapters describing the various diseases, there is a special chapter on the general management of heart diseases and one on "Nauheim Methods in Chronic Heart Diseases with American Adaptations."

Features of the book that make it specially pleasant to read and convenient for reference, are the author's historical notes regarding the various affections, and the numerous footnotes indicating careful study of the modern literature.

While the book is not, nor is intended by its author to be, an exhaustive treatise, it will be found a useful addition to the library of the general practitioner, and will undoubtedly afford him much help in the management of heart cases.

A Manual of Diseases of Infants and Children. By JOHN RUHRAH, M. D. Clinical Professor of Diseases of Children, College of Physicians and Surgeons, Baltimore. 12mo volume of 404 pages, fully illustrated. Philadelphia and London: W. B. Saunders & Company, 1905. Flexible leather; \$2 net.

This manual is compiled especially for the medical student to enable him to quickly review at night the subjects considered in the classroom and clinic during the day. In other words, it is a condensed reference book for clinical use.

In the preface the author calls attention to the part that this manual is not intended to supplant the larger and necessary textbook.

The arrangement of the topics is similar to that employed by Holt. The essential features of each disease are included in a condensed form under the following subdivisions: Definition, etiology, lesions, symptoms, prognosis, diagnosis, treatment. The author has shown excellent judgment in separating the chaff from the wheat.

The topic of infant feeding has received a good deal of attention, but here the author has not shown the same discriminating skill. Several pages are devoted to modification tables and formulas, which perhaps have their place in the larger works, but in a student's handbook are more confusing and discouraging than helpful. No adequate mention is made of the importance of a clean sanitary milk supply. Illustrations are shown of the Freeman pasteurizer and the Arnold sterilizer, but no description of the methods is given.

The book is a very convenient size, of 405 pages and attractively bound with flexible leather covers. There are numerous illustrations throughout the book, most of which are excellent.

While, as the author himself states, this manual should not take the place of the larger text books, yet it is superior to many of them, and will be a useful and serviceable book, not only to the medical student, but to the general practitioner as well.

H. L. K. S.

Physical Diagnosis, Including Diseases of the Thoracic and Abdominal Organs. A Manual for Students and Physicians. By EGBERT LE FEVRE, M. D. Second edition, thoroughly revised and enlarged. Illustrated with 102 engravings and 16 plates. Lea Brothers & Co. Philadelphia and New York, 1905.

In the second edition of Le Fevre's *Physical Diagnosis* the author has preserved the general plan of the original work, keeping the scope of the work within the subjects of Inspection, Palpation, Percussion and Auscultation. Some sections have been entirely rewritten, the illustrations have been increased, and special attention has been called to recent modifications in methods of examination, including X-ray diagnosis. Respiratory and cardiac sounds are discussed more fully than in most manuals of this sort. The chapter on percussion is especially good, and with the excellent illustrations should aid the student greatly in acquiring proficiency in this diagnostic method. The application of each of the four classical methods of physical diagnosis to diseases of the respiratory system is system-

atically discussed, and is followed by similar treatment of the diagnosis of diseases of the circulatory system and of the abdominal organs.

Medical students, for whom the work appears to be especially designed, will find it a clear and concise summary of the essentials of physical diagnosis. Physicians in practice will probably also find it a valuable though somewhat brief discussion of the subject.

A. T. L.

A Manual of Diseases of the Nose and Throat. By CORNELIUS G. COAKLEY, A. M., M. D., Professor of Laryngology in the University and Bellevue Hospital Medical College; Laryngologist to Columbus Hospital, etc., New York. New (3d) edition, revised and enlarged. In one 12mo. volume of 594 pages, with 118 engravings and 5 colored plates. Cloth, \$2.75 net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

The well known author has certainly succeeded in writing a book on the diseases of the nose and throat, which is particularly valuable for students because it does not go too deeply into details.

General practitioners and specialists can also get many valuable points by carefully reading the book.

The chapter devoted to the diseases of the accessory sinuses of the nose may be specially commended.

The author has done so much good work along this line, that he is in a position to speak with authority. There are many other good special features in the book, among them the chapter devoted to therapeutics may be mentioned. Drugs are classified according to their local actions, and a number of useful prescriptions together with indications for their employment are given.

C. F. T.

Biographic Clinics. Volume III. Essays Concerning the Influence of Visual-Function, Pathologic and Physiologic, upon the Health of Patients. By GEORGE M. GOULD, M. D. Philadelphia: P. Blakiston's Son & Co., 1905.

This is a continuation of Dr. Gould's two former volumes on this subject, and an extension of them, in that it contains not only the usual biographic studies, but also papers of a more general character dealing with various problems in ophthalmology. The more important of these relate to migraine, the relation of optic defects to the scoliosis of school children, dextrality and sinistrality, and certain problems in presbyopia. There is also a chapter on the reception of medical discoveries. Besides Dr. Gould's own articles the book also contains two excellent articles on Eyestrain by Snell and Pronger.

The purely biographic studies are in the same vein as the previous ones, and consist in a series of quotations, culled from the biographies of Symonds and Taine, which give support to Dr. Gould's hypothesis that eyestrain was at the bottom of the multifarious ills from which the gentlemen mentioned suffered. The chapter on migraine contains an interesting historical review of the subject, and brings further evidence, if any were needed, to show that in a good many cases errors of refraction are

intimately associated with this trouble. The chapters dealing with the relation of ocular troubles to scoliosis in school children, and to other aspects of school hygiene contain much interesting food for thought, and should be read by all discriminating people interested in this important subject. The remaining chapters concern subjects which are of interest to the ophthalmologist rather than to the general practitioner.

Unfortunately the same faults disfigure this book that marred its predecessors, and the most important of these is the unfortunate spirit in which it is written. Dr. Gould starts with the assumption that the medical profession is mainly composed of intolerant, and incidentally rather obtuse, individuals who are opposed to all new ideas, and he rubs the assumption in all through the book. He further holds as one of his main premises that the medical profession has persisted and continues to persist in deliberately scouting the rôle of eyestrain in causing various ills. So far as the first proposition is concerned, it is of course true that the medical profession is not entirely composed of brilliant geniuses like George M. Gould, but it is likewise true that, taking the average doctor by and large he is a pretty commonsense sort of fellow. The charge that the profession have disregarded plain evidence as to the relation of eyestrain in disease is disproved by Dr. Gould's own book in which he mentions numerous American publications on the subject, and speaks of *thousands* (italics ours) of patients who are being cured by quiet, almost unknown, oculists all over the United States. Dr. Gould evidently does not yet appreciate that if one wishes to convince a man of the truth of any proposition it is best not to begin by calling him a fool and a knave. Like many reformers, the doctor is suffering from too much Ego in his Cosmos, and he lacks the patience and the balance which are necessary to enable him to place his views before the profession without exciting antagonism. The articles of Dr. Snell and Dr. Pronger are in strong contrast to those of Dr. Gould, and we would suggest that in future Dr. Gould should model his work on theirs.

G. B.

Neurotic Disorders of Childhood, Including a Study of Auto and Intestinal Intoxications, Chronic Anaemia, Fever, Eclampsia, Epilepsy, Migraine, Chorea, Hysteria, Asthma, etc. By B. K. RACHFORD, M. D., Professor of Diseases of Children, Medical College of Ohio, University of Cincinnati; Pediatricist to the Cincinnati, Good Samaritan and Jewish Hospitals; Member of American Pediatric Society, Association of American Physicians, etc. New York: E. B. Treat & Co., 1905.

This book is a thesis. The author has addressed himself to the task of establishing a relation between certain toxic states or defects of metabolism and the nervous diseases of childhood. The line of argument is much the same as that of Haig, except that the term uric acid exploited by Haig is here replaced by a discussion of the purin bodies. The work is divided into two parts. Part I, comprising nine chapters, describes, first, the functions of the nervous system in health, the nervous changes incident upon febrile conditions, and the toxic states (gastro-intestinal toxæmia,

auto-intoxications, chronic systemic bacterial toxæmias) which influence the thermogenetic centers of the brain. As having analogous effects chronic anaemia, reflex irritation and excessive nerve activity are given a place.

Part II consists of eighteen chapters descriptive of diseases or symptoms alleged to be due to toxic states. These are fevers, eclampsia, laryngismus stridulus, tetany, enuresis, migraine, recurrent vomiting, epilepsy, recurrent coryza, chorea, hysteria, headaches and earache, asthma, disorders of sleep, nystagmus, habit spasm and pica.

The purpose of the author is the exploitation of methods of treatment for the prevention or cure of these conditions. It is possible to go to an extreme in this theory, and to attribute as causes a series of events which are only incidental. The seizures of epilepsy, for instance, are often regarded as due to an accumulation of poisons in unstable nerve cells, and yet attempts at cure by removal of this hypothetical state have been exasperatingly discouraging. It can only be said that the condition of a true epileptic is frequently made more bearable by the adoption of strict rules of personal hygiene. Anomalies of nervous function are too deeply seated to be so easily removed. The author, however, has expressed his ideas plainly and forcibly. His descriptions are good, and he displays ample evidence of careful clinical scrutiny. His book is valuable, not too technical, and should prove suggestive to every practitioner who deals with the ailments of children.

Saunders' Medical Hand-Atlases.—Atlas and Epitome of Diseases of the Skin. By PROFESSOR DR. FRANZ MRACEK, of Vienna. Edited, with additions, by HENRY W. STELWAGON, M. D., Professor of Dermatology, Jefferson Medical College, Philadelphia. Second edition, revised, enlarged, and entirely reset. With 77 colored lithographic plates, 50 half-tone illustrations, and 272 pages of text. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, \$4 net.

The second edition of this book, which appeared recently, is considerably improved and enlarged. The text is clear and concise, and the nomenclature is simple, a point of considerable importance to any one familiar with the many and confusing synonymous terms of dermatology. Theoretical discussions are conspicuous by their absence, and only the more advanced facts are stated.

This edition contains 27 new plates, each plate has opposite it a short clinical history of the case illustrated. The illustrations are excellent and instructive, the colored plates particularly. One must remember, however, that the text is written from the German standpoint, and in this country, at any rate, dermatitis herpetiformis (Duhring) is not considered a form of chronic pemphigus.

The terms pityriasis rubra pilaris and pityriasis rubra as used in this text may lead to confusion, for it is not always clear to which disease the author refers. *Lupus vulgaris* is probably a typographical error.

The book will recommend itself both to practitioners and students. As a textbook for students it is admirably adapted, particularly to schools where clinical material is not abundant. The colored plates are an ever-ready clinic for the student.

The Physician's Visiting List (Lindsay & Blakiston's). For 1906. Fifty-fifth Year of its Publication. The Dose-Table herein has been revised in accordance with the new United States Pharmacopeia (1900). Philadelphia: P. Blakiston's Son & Co., successors to Lindsay and Blakiston, 1012 Walnut street. Sold by all Booksellers and Druggists.

The new edition of Lindsay & Blakiston's Visiting List contains, in addition to the regular pages in which to record visits, a dose-table, revised in accordance with the new United States Pharmacopeia (1900), blank pages for addresses, memoranda and accounts, etc., as well as much valuable information regarding incompatibilities, treatment of poisons, etc. The regular edition is published in various sizes, for 25, 50, 75, 100 patients weekly. Beside this there is a monthly and a perpetual edition. This visiting list will undoubtedly be as popular as its predecessors. A. T. L.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, etc., by Leading Members of the Medical Profession throughout the World. Edited by A. O. J. KELLY, A. M., M. D., Philadelphia, U. S. A., with the collaboration of Osler, Musser, and others. Volume II, Fifteenth Series, 1905. J. B. Lippincott Co., Philadelphia and London.

Of the many excellent articles which this volume contain, perhaps none is of greater interest to the rank and file of the medical profession than the one entitled "The Diagnosis of Incipient Thoracic Tuberculosis." Robert W. Willson, in an exhaustive monograph, reviews in detail fifteen cases, drawing therefrom a symptom complex for incipient phthisis, emphasizing the necessity of a careful examination of the bared chest in all cases of simple "cold" or cough and elaborating in detail upon the physical signs and clinical features of the malady.

John Lovett Morse, of Boston, in a readable article on "The Treatment of Acute Nephritis in Childhood," compares the caloric needs of the child and adult. He disfavors an exclusive skim-milk diet, large quantities of water and diuretics in the first stages of acute nephritis, but advises milk and cream mixtures, free catharsis and diaphoretics.

"The Rational Therapy of Uterine Displacements," by C. D. Palmer, of Cincinnati, gives a resumé of the various methods, both mechanical and surgical, for relieving this condition. He believes engorgement to be the chief underlying factor of the symptomatology of uterine displacement, and that a fruitful cause of this condition is prolonged dorsal decubitus following confinement.

"Plague." J. Ruter Williamson, of India, furnishes a very entertaining article. He considers the cardinal points in the clinical diagnosis of plague to be the presence of buboes (extremely tender after the first day); the very rapid pulse (130 to 140 or more); the injected eyes; the fierce or dazed expression, and the staggering gait. Regarding treatment, the main axiom throughout is fearlessly and persistently to push cardiac stimulation.

D. Balty King, of London, gives "Some Observations on the Treatment of Pulmonary Hemorrhage by Adrenalin Chloride." He believes the drug to be contra-indicated in this condition, as it neither hastens coagulation nor reduces the pressure in the pulmonary blood vessels.

G. Hayem, of Paris, in a clinical lecture, lauds the virtues of Keplin, cows' milk which has undergone a special mode of fermentation, and is used largely by Russian physicians. He believes it to be especially adapted for patients suffering from insufficient gastric functions and particularly from insufficient secretion.

The above is but a passing mention of a few of the readable articles the editor has served up in this volume, having well accomplished his purpose in keeping the reader in touch with the latest thought of the medical world.

H. D. C.

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Edited by Miss Ada Bunnell, B. L. S.

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MEDICINE

Edited by Samuel B. Ward, M. D., and Hermon C. Gordinier, M. D.

An Enquiry into the Etiology and Pathology of Beri-beri.

HAMILTON WRIGHT. *Journal of Tropical Medicine*, 1905, viii, 161, 180.

The theories most often advanced as to the cause of beri-beri are:

- (1) Gelpke's theory that it is due to dried fish infected with a trichina.
- (2) Miura's theory that it is due to the ingestion of certain kinds of raw fish.
- (3) Grimm's theory that it is due to the ingestion of infected fish.
- (4) The theory of Takaki and others that it is due to a pathogenic diet in which the proportion of nitrogen to carbon is too small.
- (5) Ross's theory that it is due to arsenical poisoning.
- (6) The theory that it is due to the ingestion of mouldy rice.
- (7) Braddon's theory that it is due to the ingestion of a specific organism which develops on growing rice.
- (8) Manson's theory that it is due to a place germ (earth, floor or house), which distils a toxin, volatile or otherwise, that being inhaled or ingested produces the disease.
- (9) Glögner's theory that it is due to a hemic plasmodium.
- (10) The author's own conclusion is that it is due to a specific organism that remains dormant in certain localities, but having gained entrance

to the body by the mouth, it multiplies locally (in the stomach or duodenum), gives rise to a local lesion and produces a toxin that, gaining entrance to the general circulation, acts on the peripheral terminations of both afferent and efferent neurones. Finally the organism escapes in the fæces and again lies dormant in various places. Unfortunately the specific organism has to be assumed.

For the elimination of the other theories the author relies on the results of his observations of prisoners and of experiments on monkeys in a jail in Kwala Lumpor in the Federated Malay States.

The prisoners were divided into separate parties; party No. 1 consisted of those who had had beri-beri; party No. 2, of prisoners who had never had beri-beri. This party was kept separate from party No. 1, and at different work, but were yet in the same building. Party No. 3 consisted also of those who had not had beri-beri, but they were kept at work outside the building and slept in different cells from the other parties. Party No. 4 consisted of certain prisoners who had had more or less severe beri-beri. They were kept at work in the kitchens and laundries. Conditions as to clothing, sleep, water supply, personal hygiene, etc., were uniform as possible. The water was from a supply above suspicion. The rice used was steamed for two and a half hours under two atmospheres of pressure or boiled, and afterward examined bacteriologically. The other articles of diet were regularly inspected. The prisoners received no fish of any kind. The proportion of nitrogen to carbon averaged about one in twelve. This is a higher proportion of nitrogen than is normally required. The bad feature of the prison routine was the disposition of the excreta. This seemed to be the main source of infection. From the cases that developed it appeared that the incubation period of beri-beri might be as short as ten days. In the jail it was no respecter of nationality. The Chinese, however, furnished the majority of cases. Most of the cases originated during the northeast monsoon, *i. e.*, from September to April. Rainfall seemed to provide the moisture necessary for the virile development of the organism.

As the result of eleven months' observation of the prisoners the author concludes that beri-beri is independent of diet, considered as diet; that the jail itself was a focus in which the virus of beri-beri was generated; that beri-beri is, broadly speaking, an infectious disease.

On the Classification and Pathology of Beri-beri.

HAMILTON WRIGHT. *Journal of Tropical Medicine*, 1905, viii, 197.

The author classifies beri-beri as follows:

Acute pernicious beri-beri.

Acute beri-beri.

Subacute beri-beri.

Beri-beric residual paralysis or neuritis.

Acute pernicious beri-beri has a sudden onset. Those attacked are frequently among the lustiest of their fellows. A complaint is made of loss of appetite and dislike of solid food. Within a few hours there is

dull pain in the epigastrium. Almost immediately the epigastrium begins to bulge more or less distinctly. The throat is moderately congested. There are generally found even at this period areas of anæsthesia or hyperæsthesia over the distribution of the cutaneous branches of the anterior tibial and the musculo-cutaneous nerves in the legs. In all cases of this class there are early sudden intimations which declare the action of the beri-beric virus on the cardiac nervous system. Even within twelve hours the heart proclaims its release from nervous control. The vessels throb violently, various hemic murmurs become audible. The slightest exertion on the part of the patient causes the pulse to rise rapidly in rate and to become irregular. The heart, especially on the right side, becomes greatly dilated. The lungs give signs of engorgement, shortness of breath follows and the patient dies. The mind is clear up to within a few moments of death. At the post-mortem examination the throat is generally found reddened. In the abdominal, pleural and peri-cardial cavities a varying amount of clear fluid is found. The pyloric end of the stomach and the valvulæ conniventes of the duodenum are the seat of discrete or more or less confluent hemorrhagic extravasations. The inflammation may extend to the jejunum or even to the caecum, but as a rule the changes are confined to the duodenum, the upper few feet of the jejunum and the pyloric end of the stomach. Microscopically the affected parts exhibit the main features of an acute inflammatory process. There is active congestion, round-cell infiltration, cloudy degeneration and necrosis of the epithelium. Mast cells are present in unusually large numbers. Nerve cells in the plexuses and fibers show beginning degeneration. The entire cardiac nervous system shows the effect of the virus. The kidneys, lungs, spleen and liver may show congestion. The muscles, if their nerves have been affected, are flabby. No interstitial changes are noticeable. If there has been œdema the nervi vasorum in the œdematous areas show the first stage of change. So also do the nerve cells in the solar and other sympathetic plexuses.

Acute Beri-beri.—The onset in this form is similar, but differs in degree from the class just described. The premonitory syndrome of gastro-intestinal disturbance is perhaps not so marked. By the end of ten days a patient may be robbed of all voluntary movements in the limbs and trunk, the intercostals and the diaphragm alone escaping. The various forms of sensation may be widely disturbed. Even the fifth and seventh cranials may be involved. On the other hand the paralysis may not extend beyond the lower limbs. The heart is not involved to as great a degree as in the acute pernicious variety. Any degree of oedema may be present. Cases of this class seldom die in the acute stage of the disease, but may die later when the gastro-intestinal symptoms have disappeared and paralysis has developed.

Subacute Beri-beri.—In this class the gastro-intestinal symptoms are slight. The knee-jerk is lost in a few days. As a rule the paralysis of sensation and motion is confined to the legs, though there may be numbness of the hands and slight paresis of the movements of extension at the wrist. Various grades of oedema may develop. It is only rarely that signs of poisoning of the cardiac nervous system are demonstrable. The

chief defect which appears is a tendency for the heart to beat more rapidly than it should on slight exertion.

Beri-beric residual paralysis may persist for almost any length of time, depending upon the extent of the original lesion in the cardiac nervous system, or the ability of those affected to withstand the effects of intercurrent maladies. I have notes of a case which had endured paralysis of extension of the ankles and loss of sensation in the legs for sixteen years.

The usual course is for such cases to succumb in from one to five years from heart failure, as the result of over-taxation of the diseased organ or from intercurrent affections, such as dysentery, Bright's disease, phthisis, pneumonia, or repeated attacks of malignant malaria.

During life the symptoms are those of any chronic neuritis, the amount of paralysis of a given movement or quality of sensation depending upon the extent of the initial poisoning of the neurones involved.

Pathological Summary.—It is of great importance to remember that the large majority of cases of beri-beri which come to the post-mortem table are cases of beri-beric residual paralysis or neuritis. These cases have been searched by many to discover the active agent of the disease. The beri-beric residual paralytic is simply a nervous wreck, the active cause having long since accomplished its work and departed. A gastro-duodenitis is never seen. Mesenteric glands are never found swollen; petechiae are not to be observed in the serous membranes; granular degeneration of the kidney epithelium is rarely found; foci of small cells are not present in heart or kidneys. In fact, there are no positive signs of an acute process in any organ of the body.

The author concludes the article by giving a detailed discussion of the microscopic changes taking place in the neurones in beri-beri.

Experimental Tuberculosis of the Heart and Aorta. (Tuberculose expérimentale du Coeur et de l'Aorte.)

L. BERNARD and M. SALOMON. *Revue de Medicine*, LV, 1, January, 1905.

Though the existence of tuberculous lesions of the endocardium was denied for a long time the condition is now recognized by all pathologists as occasionally found. When first seen at autopsy upon tuberculous individuals they were attributed to secondary infection with pyogenic cocci, a view which was strengthened by the isolation of such organisms from the lesions in a few cases, but later and more extensive investigations failed to reveal any such etiological factor, and still more recent work has shown, both by microscopical examination and by animal inoculation, that tubercle bacilli may be here present. Michaelis and Blum have given experimental confirmation of these latter findings; they injected rabbits intravenously with tubercle bacilli, having previously injured the aortic valves of the animals, and found later at autopsy typical vegetative endocarditis in which histological tubercles and tubercle bacilli were present.

These lesions however, and those found at human autopsy, represent only a secondary localization of bacilli in the heart, in the course, or at the end of a general miliary tuberculosis. Primary tuberculosis of the endocardium has no independent clinical existence and has only very lately been demonstrated as a pathological possibility. Braillon (and others) have recently reported such cases, and he believes that there is no essential difference in the structure of such vegetations and of those due to the ordinary pyogenic micro-organisms.

The work here reviewed is entirely confirmatory of his findings in this respect. Bernard and Salomon used in their experiments two dogs and six rabbits, and upon five of these animals the results were positive, i. e. tuberculous lesions were produced.

The rabbits received direct intracardiac injections of tubercle bacilli, the needle being inserted through the thoracic wall; in the case of the dogs the injections were made through a cannula inserted in the left carotid artery and passed down to a point just within the left ventricle. The rabbits received two cubic centimeters of an emulsion of tubercle bacilli, but the dose given to the dogs is not mentioned. The animals were killed at periods varying from twenty to fifty days after the injections, and showed in addition to a generalized tuberculosis, lesions in the heart and aorta, which were in all the animals exactly similar, though more advanced in those in whom the condition had existed for the longest time, as was, of course, to be expected.

Tuberculous lesions were found in the endocardium, in the myocardium, and in the pericardium. They appeared macroscopically as typical tubercles scattered over the internal surface of the left ventricle without apparent predilection as to location, and occurred in two forms, one as definitely projecting nodules situated apparently on the endocardium and the other as sub-endocardial nodules with very slight projection but an increased development apparently in the muscle beneath. In addition to the left ventricle, they were found in the right ventricle and upon the ventricular surface of the auriculo-ventricular valves, and in the case of the animal injected through the carotid upon the endocardial surface of the left auricle, the aortic valves, and upon the intima of the aorta. In no instance had these lesions the appearance of ordinary endocarditic vegetations, but had macroscopically all the characteristics of typical tubercles.

On this account their microscopical (histological) structure was very interesting and equally surprising. The projecting nodules were composed of a deposit of fibrin upon the elastic layer of the endocardium, and were covered by the endothelial layer. Many lymphocytes were found in the meshes of the fibrin, and here and there in the deeper layers a few tubercle bacilli. The second form of endocardial lesion which has been mentioned was found to be composed of lymphocytes and epithelioid cells, and to be subendocardial as had been suspected, the slight projection being caused by the elevation of this membrane from the muscle beneath. The lesions in the aorta were formed of a network of fibrin, which enclosed numerous lymphocytes, and were situated on the internal elastic coat just beneath the endothelial layer of the intima. The valvular nodules were also of two forms, exactly corresponding with the endo-

cardial and subendocardial forms already described. These lesions were found at the attached margin of the valves or extending from this point into the valve substance, but were not found upon the free margin.

Bernard and Salomon offer the following explanation for the two forms of lesions (endocardial and subendocardial), agreeing with the conclusions of Peron in regard to similar forms of pleural tubercles, that the endocardial form is due to direct inoculation with the bacilli, while the subendocardial form arises from bacillary emboli.

They explain the fact that the macroscopic appearances are not those of vegetative endocarditis and that the lesions are more widespread in their localization than in human cases by two facts, first an infection of shorter duration and secondly, an infection of greater intensity. They consider it is not only possible but very probable that with a gradual progressive development of the lesion over a longer period of time a true vegetation might be found. In this case the macroscopical appearance would be very misleading as to the true nature of the condition, and as it has been seen that the histological picture cannot usually be distinguished from that of ordinary endocarditis of nontuberculous origin, the confusion as to the true etiological factor in such cases can be very easily explained, especially when we remember how difficult it often is to demonstrate tubercle bacilli in such lesions.

The writers also point out that such considerations compel us, at least partially, to give up the classical specificity of the histological tubercle, as other agents can produce tubercles, and tubercle bacilli under certain conditions can produce ordinary inflammatory processes. It would seem as though perhaps the nature of the inflammatory reaction depends in part upon the nature of the tissue involved.

Primary Ulcerative Aortitis of Probable Tuberculous Origin. (Aortite Septique Ulcéro-Végétante de Nature Probablement Tuberculeuse.)

M. M. ROME and BOMBES DE VILLIERS, *Lyon Medical, CV. No. 34, August 20, 1905.*

Ulcerative aortitis occurs under two conditions: first, as an accompaniment of infectious ulcerative endocarditis and resulting from a direct extension of this process from the aortic valves along or into the aortic wall; second, as a primary lesion entirely independent of any cardiac affection. The first condition is much more common and the aortic lesion passes unrecognized until it is discovered at autopsy. The second condition also passes unrecognized clinically, and is usually thought to be an affection simply of the aortic valves until post-mortem examination shows the endocardium clear and the whole trouble to be in the aorta.

The writers report a case falling under the latter classification. The clinical history was briefly as follows: A woman, aged 40, complained of a cough, a sense of thoracic oppression and fever, all of which had lasted about three months. Family history negative for tuberculosis. Personal history negative for syphilis, though she had had two miscarriages, cause unknown; she had had six living children. At the age of

20 she had had an acute monarticular arthropathy which persisted for a long time. Since that time she had been well until three months before when she had had a short attack of polyarticular pain. Following that she had had constant cough, attacks of dyspnoea, especially at night and on exertion, fatigue, asthenia, headache, chills. Recently her symptoms had been worse. When first seen her cardiac condition was as follows: Dyspnoea present, heart slightly enlarged to left, thrill in 2d left interspace, systolic in time; systolic murmur over whole heart, but more intense at apex and base, in the latter situation being remarkably rough and grating in quality. No diastolic murmur heard. Pulse 120, regular, feeble. The lungs gave numerous râles throughout, liver and spleen enlarged, albuminuria. For two months her condition persisted with no improvement; her temperature was continually elevated, but very irregular; heart signs grew worse, increased thrill and intensity of murmur, especially at the base, with transmission into the carotids. Death sudden.

At autopsy the heart was found to be greatly enlarged, especially the left side; mitral valve and entire right heart normal. Aortic valves thickened, retracted, partially adherent, causing marked occlusion of the orifice. There was however no trace of recent lesions and no vegetations. The aorta in its transverse and descending portions was normal. In the ascending portion about four centimeters from the aortic valves there was a ragged irregular ulcer about two centimeters in diameter, its edges nearly hidden with friable fibrinous vegetations. This ulcer opened into a small pocket in the posterior wall of the aorta, which was partially filled with blood clot, and proved to be a small dissecting aneurysm between the media and adventitia. Nowhere was the least trace of atheroma.

Further than these heart findings the autopsy disclosed bilateral chronic fibrous pleurisy, healed tuberculosis of the right lung, bilateral pulmonary oedema, chronic passive congestion of liver, spleen and kidneys, cerebral oedema.

The microscopic examination of the aorta showed a necrotic inflammation of the middle coat of the vessel with considerable infiltration of the surrounding tissues. There was no evidence of syphilis, of atheroma, or of tuberculosis.

Inflammatory conditions of the aorta are divided into three main classes:

(a) Atheroma of old age, the lesions of which are chronic and of slow development and produce no symptoms referable to the aorta;

(b) Syphilitic; producing typical gelatiniform plaques upon the intima;

(c) That occurring in the course of grave septicaemia or pyaemia, and in which one finds at autopsy either ulcerative or vegetative aortitis or true abscess of the vessel walls. Such lesions are usually accidentally found at autopsy, as in the above case.

The writers review the reported cases of the latter condition, many of which were merely extensions inward of ulcerative endocarditis. Their case was purely and absolutely primary, as no fresh lesions of the valve were found and there was no atheroma. The etiological factor in most of these cases is very hard to determine, though those cases which occur

in the course of septicaemia or pyaemia or in which metastatic abscesses are found at autopsy are very definitely pyogenic in origin.

They offer the following reasons for considering their case as probably due to tuberculosis though no positive evidence of this was found at autopsy.

There was no evidence of syphilis or atheroma, and as blood cultures made during life were sterile the possibility of a pyogenic causative factor was practically ruled out. The history of previous articular troubles was of course suggestive of rheumatism, but the attacks were not at all typical of this disease, and rheumatism never produces the severe aortic conditions which were here present; it might have accounted for the valvular lesion, though this is more frequent of the mitral valve, and in this case the mitral valves were clear. The patient showed signs of healed tuberculosis of one lung, and the serum test for tuberculosis in the course of her acute terminal attack was positive. They consider the joint condition, the pulmonary lesions, the valvular and aortic troubles as all due probably to tuberculosis.

DERMATOLOGY

Edited by Frederic C. Curtis, M. D. and Harry W. Carey, M. D.

Observations Concerning Some Palmar Eruptions.

STELWAGEN. *Journal of Cutaneous Diseases*, January, 1905.

The paper includes a discussion of eczema, eczema seborrhoicum and syphilis palmaris, in which the lesions are chronic, dry and scaly in character, exclusive of those due to occupation. Common predisposing factors are age, seldom under thirty years, sex, males more often than females, sedentary occupation, anæmia and circulatory disturbances due to renal or cardiac disease. The diagnosis is often difficult, for between the diffuse, thickened scaly eruption of eczema and the sharply defined serpiginous palmar syphilide are many gradations which are confusing. Itching when present is characteristic of eczema. Marginate and crescentic lesions occur in eczema seborrhoicum, but are more superficial, vary more from month to month and are less infiltrated than in syphilis.

For eczema palmaris, ten to twenty per cent. salicylic ointment or plaster with washings of *sapo viridis* or weak solutions of caustic potash are recommended at intervals. Between the periods when the above treatments are used, a mild ointment, such as Unna's diachylon salve may be used. Some of these cases respond promptly to the Roentgen ray.

In eczema seborrhoicum palmaris, occasional painting with ten to fifty per cent. resorcin alcohol, sulphur five to twenty-five per cent., or chrysal robin two to ten per cent. with lard or Lassar's paste has yielded the best results.

In syphilis palmaris, the writer is of the opinion that mercury alone is indicated in the form of inunctions or hypodermic injections, as these patients seem to be specially tolerant of mercury when given by the mouth. Potassium iodide has not yielded good results. Attention should also be given to improving the circulation and to regulating the general hygiene of the patient.

The Diagnosis of Urinary and Genital Tuberculosis.

YOUNG AND CHURCHMAN. *American Journal of the Medical Sciences*, July, 1905.

The habitat of the smegma bacillus is such a wide one that it may be present in any urine. It is frequently found in the fossa navicularis of the anterior urethra, but not in the posterior urethra or bladder. Catheterized urines, therefore, are not necessarily free from the smegma bacillus. The various methods employed to differentiate the smegma from the tubercle bacillus are reviewed, viz., those based upon morphology, staining peculiarities and animal inoculation. The two former methods are proven to be uncertain and the latter requires too much time.

The object of the method outlined is to eliminate the smegma bacillus completely by:

(1) Careful washing of the external genitalia, specially the foreskin and glans;

(2) Irrigation of the whole anterior urethra through a small glass tube introduced into the urethra as far as the triangular ligament;

(3) The urine is collected into three glasses and the contents of the third glass are centrifugalized and stained after Gabbet's method.

The Etiology and Pathogenesis of Erythema Nodosum.

HOFFMAN. *Deutsche medicinische Wochenschrift*, p. 1877, No. 51, 1904.

The writer believes that the skin lesions and general symptoms of fever, arthropathy and gastric disturbance point to an acute infection or a toxæmia.

It should not be classed with erythema exudativum multiforme or acute articular rheumatism.

Three forms are distinguished: (a) idiopathic, (b) symptomatic [typhoid, scarlet fever, gonorrhœa, etc.], (c) toxic—iodoform, etc. It is to the idiopathic form the article refers.

The erythematous nodules excised and studied microscopically show a swelling of the intima of the small veins and particularly of the endothelial lining; the media is also involved, but to a lesser extent. Within the lumen are found accumulations of leucocytes, a partial thrombosis. The staphylococcus albus and the streptococcus have been grown in cultures from the nodules, but in not enough cases to warrant any positive conclusions as to their importance. The author believes the condition is an acute phlebitis in the small veins of the extremities.

The Combined Quinine-Iodine Treatment of Lupus Erythematosus after the Method of Holländer and its Explanation.

OPPENHEIM. *Wiener klinische Wochenschrift*, p. 53, No. 3, 1905.

Quinine and iodine have long been used in the treatment of this disease, the former internally, the latter applied externally. Holländer advised

their combined use in 1902. The author suggests a modification of Hol-lander's method, as follows:

(1) A preliminary dose of quinine bisulphate or hydrochlorate, grams 0.5, to determine any idiosyncrasy;

(2) Quinine, grams 0.5, morning and evening, increasing the dose grams 0.5 every third day until grams 4.0 pro diem is reached;

(3) Clean lupus area with alcohol and ether, then paint with tincture of iodine twice each day;

(4) Maintain this treatment until skin becomes smooth and erythema disappears, then diminish quinine grams 0.5 every third day.

He reports no bad effects from the high doses of quinine. The gradual increase in the dose is for two reasons: (a) the patient develops a tolerance for the drug, and (b) it exerts a more marked beneficial effect on the lesions. He cites six cases treated in Finger's clinic, two completely cured and four much improved.

By experiment the author has proven that the iodine increases the quinine in the lupus lesions by attraction [positive chemotaxis], and probably forms a compound there which acts favorably on the diseased skin. He urges this method in all chronic cases of lupus erythematosus.

Ethyl Chloride in the Treatment of Zoster.

MORROW. *Journal of Cutaneous Diseases*, April, 1905.

The application of ethyl chloride is recommended only in those cases in which the pain is severe and counter-irritation is indicated. It is applied at the spinal origin of the affected nerve and also over the area where the pain is located. A spot about the size of a dollar is frozen and this can be repeated frequently with good results. A period of relief follows, varying from a few hours to a day.

CLINICAL MICROSCOPY

Edited by Arthur T. Laird, M. D.

The Vitality of the Typhoid Bacillus in Shell-Fish.

E. KLEIN. *Lancet*, 1905, Vol. CLXVIII, p. 1133.

This investigator endeavored to determine the viability of typhoid and colon bacilli in oysters, cockles and mussels under the usual variety of conditions and processes to which these shell-fish are subjected before consumption.

Healthy oysters free from contamination by these bacteria were found to be capable of ingesting such bacilli when the latter were introduced into the shells, or were merely introduced into the water in which the oysters were placed. Such infected oysters if placed in frequent changes of clear sea water would free themselves from these bacteria. The dis-

position of the bacteria by the infected oysters was carried on to a less extent and more slowly if the oysters were not placed in sea water but kept in the air.

Oysters coming from sources where the sea water was regularly polluted would, after infection with the typhoid bacillus, clear themselves of these bacteria to a lesser extent and at a slower rate when placed in clean sea water than those clean when infected. If such oysters were kept in the air they cleared themselves much more slowly, and to a far less extent than when kept in clean water. In the same way, if infected oysters, which having once cleared themselves of typhoid bacilli while kept in the air, were again subjected to reinfection, they were very slow in again clearing themselves even if kept in clean water.

That the disposition of the infecting bacilli was not merely a passing out of them into the surrounding water was shown by the results of the tests on the oysters kept in the air, and also by the lack of increase of typhoid bacilli in such surrounding water as compared with the decrease in the oyster.

The conclusion is drawn that the disposition of the bacteria must be due in large part to the direct devitalizing power of the oyster upon them. Therefore, any condition which decreases the vitality of the oyster tends to increase the viability of the typhoid bacilli infecting them.

Microscopically the oysters showed no indications of infection even when kept out of water for a few days.

Oysters lived quite well in sterile sea water if the latter was frequently changed. Mussels and cockles in this order showed a much less power of clearing themselves of typhoid bacilli than did oysters, in fact, in cockles there was an increase in the number of typhoid bacilli after a preliminary decrease, but this was followed by a gradual decline in numbers.

Clinical Examination of the Urine. A Critical Study of the Commoner Methods.

RICHARD C. CABOT. *The Journal of the American Medical Association*, 1905, XLIV, 837, 943.

The author has compared systematically the urinary records and post mortem findings in all the cases of acute and chronic nephritis that have come to autopsy at the Massachusetts General Hospital since 1893. The cases were classified according to Councilman's method of classification. Of cases of acute glomerular nephritis five were diagnosed during life, out of twenty-one recorded in the table but not one was recognized as acute nephritis. The amount of albumin was five-tenths per cent. or more in six cases. From these figures it varied to only a trace in eight cases. Casts were absent in three cases, scanty in nine, and abundant in eight. No single type predominated except the hyaline variety. Blood in considerable quantity was present in but two cases. Uremic symptoms were present in none of the unrecognized cases. Dropsy was present only in the five cases rightly diagnosed.

Of the cases classified post mortem, as "subacute glomerular nephritis," five out of ten cases were recognized ante-mortem, as being cases of some form of nephritis. The five unrecognized cases were diagnosed as follows: gallstones, actinomycosis (ribs), sloughing uterine fibroid, acute endocarditis, and pneumonia with alcoholism. The condition of the urine in these cases was not normal but the abnormality was not greater in degree or different in kind from that often found in fever urines; that is, in febrile diseases such as were present in these cases.

Of the seventeen cases of chronic glomerular nephritis, in only two was the nephritis unsuspected, and in thirteen of the remaining fifteen cases the type of the disease was correctly stated as well. How much the diagnosis may have depended on other clinical features than the result of the urinary examination is a question. Urines as highly albuminous, as lacking in urea, as thickly sown with fatty elements have occurred in various other conditions mentioned in the paper. In these cases the albumin varied from a trace to one and five-tenths per cent., hyaline granular fatty blood, epithelial, and waxy casts were present in varying numbers. In some of the cases at times no casts were found.

Of the thirty-five cases classified as chronic interstitial nephritis at autopsy nineteen were recognized as nephritis of some type. In the sixteen unrecognized cases the diagnoses were varied. In regard to the urine in the cases proved at autopsy to be cases of the chronic interstitial type: albumin was absent in three cases, very scanty in thirteen cases and present in varying amounts in the remaining cases. Casts were absent in nine cases, very scanty in eighteen, but in the remaining cases, about one-fourth of the total, they were abundant. The specific gravity was persistently low in twenty-four cases.

Of six cases of amyloid kidney none were diagnosed during life. The urine was not characteristic and varied greatly in the different cases; one case showed no casts and but a small amount of albumin.

Thirty-five cases of chronic passive congestion of the kidney were studied. The specific gravity was low or within normal limits in seventeen cases. The total amount of urine was diminished in all cases but one. The albumin varied from the slightest possible trace in five cases to four per cent, casts were abundant in twelve cases and included the hyaline, granular, epithelial varieties, and in certain cases blood cells and fat droplets were also found on the casts.

Ninety-three cases in which the kidneys were found in the post-mortem examination to show acute degenerative changes were studied. By this term the author means only such a degree of granular or fatty change in the epithelium of the tubules as is to be found post-mortem in almost every fatal case of typhoid, pneumonia, or other infectious disease. The condition was diagnosed in all but three cases. If we said that all these cases had nephritis we should be forced to the paradox that almost everybody has a certain amount of nephritis when he dies.

In a group of these cases Bright's disease in the ordinary sense of the term was diagnosed during life and after death only acute degenerative changes were found. In one of these cases the 24-hour urine was reduced to 300 c.c. with one and seven tenths per cent. of urea and one-

half per cent. of albumin, while the sediment contained hyaline and granular casts. These findings would seem to indicate nephritis, but none was found post-mortem. Yet in many of the cases of acute glomerular nephritis already mentioned the urinary picture was no more alarming.

In another series of ten cases marked urinary anomalies were found without discoverable lesion post-mortem.

Cases of arterio sclerotic atrophy involving only a part of the kidney, and cases of extensive fatty degeneration did not show any characteristic urinary findings.

The author does not believe that urea estimations are of much value. The amount excreted depends on the amount of nitrogenous food absorbed and on the catabolism of the entire body. Exercise and a free ingestion of water increase it. Disturbances of assimilation or digestion cause the appearance in the feces of part of the nitrogen taken in with the food. The circulation through the kidney also influences the amount of urea excreted, and there may be spontaneous nitrogen retention. In the vast majority of cases we cannot spend the time necessary, even to determine the food nitrogen, the fecal nitrogen and the urea of a 24-hour specimen, to say nothing of accounting for the disturbing factors mentioned.

The quantitative estimation of the other urinary solids—uric acid, phosphates, chlorids and sulphates the author believes to be equally useless.

Supplementary methods for the examination of the renal functions are discussed. The methylene blue test is not considered of clinical value since we cannot judge of the permeability of the kidney for other solids from its permeability for a single substance like methylene blue. The phloridzin test is one in which the glucoside phloridzin, injected subcutaneously, produces glycosuria by direct action on the renal epithelium. Assuming that the amount of sugar drawn from the blood under these conditions by the kidney is in proportion to the number of functionally active cells, we may attempt to estimate the functional power of the kidney by testing the amount of sugar excreted in the urine after a standard dose of phloridzin and the rate of its excretion. The test seems to be of some value in testing the functional power of one kidney, for then we have the sound kidney as a control, but in nephritis affecting both kidneys the test is of little value because the normal quantity of sugar and the rate of excretion following the injection of phloridzin vary. Cryoscopy, the determination of the freezing point of a liquid is not a difficult process, and is supposed to give us an idea of the functional activity of the kidney in accordance with Raoult's law. According to this rule the greater the number of monocols dissolved in a liquid, the lower the freezing point. It is, however, necessary to determine the amount of chlorin in the urine first in order to make an allowance for the effect of the sodium chlorid that passes unchanged into the urine. By subtracting this we get an idea of the amount of lowering due to substances concerned with metabolism. The various factors influencing metabolism enumerated in the discussion of urea determinations must also be taken into account. Cryoscopy is, however, of more value in

determining the functional power of one kidney when the other is affected by some surgical condition demanding operation.

The author sums up the results of his investigation as follows:

1. There are many cases of acute glomerular nephritis which cannot be recognized by any of the methods of examination known to us.

2. In some cases of subacute and chronic glomerular nephritis, our diagnostic resources are likewise at fault, but in the great majority of cases here studied, the condition of the urine taken in connection with other features of the clinical picture, enabled us to anticipate the autopsy findings. Our success in the diagnosis of chronic nephritis is almost as constant as our failure in the acute cases.

3. When we face the group of chronic interstitial cases, our diagnostic resources appear to be neither as sufficient as in chronic glomerular nephritis, nor as inadequate as they were shown to be in the acute cases.

In about one-third of the cases the diagnosis was correctly made before death.

4. Among other conditions mistaken for nephritis, owing to the implicit reliance in the urinary findings, we find that the senile and arteriosclerotic degenerations are not infrequently the cause of mistaken diagnoses of chronic nephritis, while in conditions involving passive congestion or acute degeneration of the kidney, the urine occasionally simulates that of acute nephritis. Even in cases where no lesions are to be found at autopsy, the urine is occasionally highly albuminous and full of casts.

5. In our ordinary urinary examinations, common errors are: (a) The attempt to estimate urea without any accurate knowledge of the patient's metabolism; (b) the statement that renal cells are present when all that we know is that we have seen small mononuclear cells, perhaps belonging to the renal tubules, perhaps not.

6. Cryoscopy and other attempts to test more directly the renal permeability are not as yet capable of supplementing in clinical work the older methods of examination in the diagnosis of nephritis.

The vast majority of estimations of urinary solids, including urea, are, in my opinion, a waste of time, since they are not, and in most cases cannot be made, part of a general metabolism experiment.

The attempt to estimate the anatomic condition of the kidney by the measurement of albumin and the search for casts is fallacious in the extreme.

The most reliable data about the urine are those most simply and quickly obtained, the twenty-four hour quantity, the specific gravity and the color.

In the body of the paper the author states that the increase in the relative amount of the night urine, nocturnal polyuria has been found to be one of the most reliable manifestations of a chronic nephritis.

ALBANY MEDICAL ANNALS

Original Communications

EXPERIMENTAL ARTERIOSCLEROSIS.¹

BY RICHARD M. PEARCE, M. D., AND E. MACD. STANTON, M. D.

(From the Bender Laboratory, Albany, N. Y.)

(Plates I and II)

The complexity of the pathologic picture in the arteriosclerosis of man and the difficulty of determining the nature and sequence of the early changes have led many investigators to attempt the experimental production of the disease in the hope of thus solving some of its many confusing problems. Until within the last two years all such efforts have been unsuccessful. It is true that Thoma described a diffuse arteriosclerosis in the dog as the result of a chronic experimental aortic insufficiency and that Gilbert and Lion¹ produced scattered sclerotic and calcareous changes in the vessels of animals by injecting bacteria and their toxins. Thickening of the vascular walls has been described also as the result of poisoning animals with lead. These results, however, have been inconstant and lack confirmation. Jores,² in his excellent monograph on arteriosclerosis published in 1903, reached the conclusion, based on a critical review of the literature, that all experimental methods fail to cause lesions similar to those occurring in man. Various endarterial lesions, obliterative or otherwise, as well as diffuse inflammation and atrophy, have been produced by injections of bacteria or their toxins by the application of irritating substances to the perivascular tissues and by ligation and other forms of mechanical injury; but none of these lesions is analogous to true arteriosclerosis.

¹This investigation was conducted under a grant from the Rockefeller Institute for Medical Research. Read before the Association of American Physicians, at Washington, May 17, 1905. Published also in *Journal of Experimental Medicine*, 1906, viii, no. 1.

It is a curious coincidence that in the same year in which Jores reached this conclusion Josué³ described experimental lesions in the aorta of rabbits, somewhat similar to those of human arteriosclerosis. These were caused by frequent intravenous injections of adrenalin. With the exception of a few inconclusive experiments of Jores, who gave dogs adrenal tablets in their food in the hope of obtaining lesions due to heightened blood pressure, Josué appears to be the first investigator to attempt the experimental production of arteriosclerosis by the use of the principle of the adrenal gland. His results have been confirmed by Erb,⁴ Rzentkowski,⁵ Fisher,⁶ and others. Their reports include but a small group of experiments, and deal for the most part with the late changes, which they describe variously as arteriosclerosis, atheroma, and calcification. The principal histologic changes to which they call attention are alteration in the elastica and the infiltration of lime salts.

The importance of a method capable of producing an experimental lesion so closely resembling human arteriosclerosis is apparent. It allows an opportunity to study many of the obscure problems of the disease, as the nature of the primary changes, the sequence of these changes, and the combinations which constitute the fully-developed lesion. It was with the hope of elucidating some of these problems that the present investigation was undertaken. The results have been satisfactory beyond all expectation. Vascular changes, capable of throwing much light upon the pathology of arteriosclerosis, and also that of aneurysm formation, have been readily produced. Only a general outline of these will be given at this time, for many of the details of the histologic changes, especially of the process of repair, are so important that they require a more extended study. A consideration of these details is therefore reserved for a future publication, based on a second series of experiments now in progress.

METHODS. Rabbits have received in the veins of the ear repeated injections of a 1:1000 solution of adrenalin. The solution was prepared by a chemist, with due regard to asepsis and chemical purity. Physiologic salt solution was used as a medium. In addition to adrenalin (Parke, Davis & Co.) it contained chloretone in the proportion of one-half of one per cent. and a sufficient amount of hydrochloric acid to make the solution faintly acid.

An initial dose of three minims¹ and the repetition of the same amount every other day has been the usual procedure, though in some experiments the dose has been gradually increased. Not infrequently the early injections cause death from acute dilatation of the heart and pulmonary edema. Such accidents usually occur after any one of the first seven or eight injections. If the animal survives this period it appears to gain a certain amount of immunity, or, at least, tolerance to adrenalin, so that the dose may be gradually increased during several weeks, until twenty to twenty-five minims may be given every day. This increased resistance to adrenalin has been noted also by Erb and Fisher. The animals have been killed after periods varying from a few days to eight and a half weeks.

For histologic study tissues have been preserved in Zenker's fluid, alcohol and six per cent. formalin; imbedded in celloidin; and stained with hematoxylin and eosin, and by Weigert's elastica and Mallory's connective-tissue methods. The scharlach R. and Osmic acid methods have been employed for the demonstration of fat. Sections hardened in Flemming's solution and stained by hematoxylin have been found to be most satisfactory for purposes of general study. By this method the nuclei and areas of calcification stain blue; fat, if present, black. The elastic fibres stand out prominently as light, greenish-yellow, glistening lines, while all other structures are of a faint gray color.

Results. Of twenty animals receiving adrenalin nine succumbed to the acute effects of the drug within fifteen days. These nine represent animals receiving one, three, four, five, seven, and eight injections of adrenalin on alternate days. In some instances death resulted within a few minutes after the injection, in others, after a few hours. The immediate effect of the intravenous administration of adrenalin is collapse with difficult and rapid respiration. The animal lies on its abdomen, with legs outstretched, and head resting on the table or raised in spasmodic respiratory effort. Death, preceded by severe convulsive movements, may occur immediately. Other animals recover from the immediate manifestations only to succumb after a few hours. Upon postmortem examination the usual picture is acute dilatation of the heart and edema of the lungs, with, not infrequently,

¹ Throughout this report the dose will be given in minims. It would be better, perhaps, to use the values of the metric system, but as Josué and others give the dose in minims or drops, we have for purposes of control used the same system of measurement.

small hemorrhages beneath the pleura and pericardium. In one animal hemorrhages were also found in the adrenal. These acute lesions indicate a very serious disturbance in the terminal vascular territories, and are worthy, perhaps, of further investigation; but as our problem has to do only with the histologic changes in the larger vessels, its scope has been limited to that extent. The theoretic conclusions to be drawn from experimental adrenalin edema and their possible application to acute edema of the lung in man have recently been discussed by Josué.⁷

In but two of this group of nine animals were changes in the vessels demonstrable. These will be discussed later.

The second group of eleven animals represents those receiving from eight to twenty-eight injections during periods varying from sixteen to fifty-nine days. One of these died on the twenty-fifth day from spinal hemorrhage; another on the forty-sixth day, from unknown cause, three weeks after the cessation of injections; the remaining ten were chloroformed. The aorta in six of these showed marked gross lesions; in the other five it was negative, both macroscopically and microscopically. It is of interest that these five animals were all from the same litter, and each weighed about 750 grams at the time of the first injection. Pic and Bonnamour⁸ have come to the conclusion that it is impossible to produce vascular lesions by adrenalin in rabbits weighing less than 2000 grams, and quote in support of this opinion their negative experiments with animals weighing about 1200 grams. That this is not an absolute rule is shown by the fact that the most characteristic and advanced lesions in our series occurred in an animal weighing 870 grams at the beginning and 1020 at the end of the experiment. Otherwise, however, our experience with small animals supports the contention of Pic and Bonnamour.

Attempts to produce lesions in dogs have been unsuccessful. Both old and young dogs have been used. One of the latter, a puppy 2120 grams in weight, received in the ear vein in one month one hundred thirty minims of adrenalin in doses rising gradually from four to twenty minims. Although respiratory and cardiac disturbances frequently occurred immediately after injection, thus indicating a definite physiologic action of the adrenalin, no evidence of vascular lesions could be found at autopsy or upon microscopic examination.

Gross Lesions. These appear to be limited to the aorta. The

involvement of other arteries, as the brachial, carotid, and renal, which Erb describes, we have not found. These lesions in the aorta are most marked in the thoracic portion, and are seldom found below the celiac axis or in the first portion of the arch. The earliest change in the vessel wall manifest to the naked eye is a faint longitudinal or irregular grayish streak of the intima without thickening. This appearance was seen as early as the ninth day in a rabbit which had received five injections. After eight to fifteen injections, especially if the animal is allowed to live for a week or longer after the last injection, very definite lesions are apparent. These consist of irregular, isolated, or confluent areas, usually slightly depressed, of a pearly gray color and almost constantly calcified. The following protocol illustrates this condition:

Rabbit No. 11. Weight, 2,300 grams. Killed May 2d after injection as follows: March 29th and 31st, 4 minims; April 2d and 4th, 5 minims; April 6th and 8th, 7 minims; April 10th, 10 minims; April 12th, 12 minims; April 14th, 15th and 16th, 15 minims. *Autopsy:* The aorta is distinctly dilated, measuring twelve millimeters in circumference at the arch. Beginning at the origin of the left carotid artery is an irregular patch thirty-seven millimeters long, averaging two and a half millimeters in width, and extending in a spiral course along the aorta for a distance of thirty millimeters so as to completely encircle it. Along this patch the wall of the aorta is slightly dilated. The media is firm, parchment-like and so distinctly calcified that the vessel cracks in several places when the arch of the aorta is straightened. At one side of this large patch are two very small oval areas of similar structure. There is no atheroma or ulceration. All the other organs are entirely negative.

The late lesions occurring after from twenty to twenty-five injections are very well marked. The aorta is more or less distorted, rigid and non-elastic. Irregular dilations alternate with elevated brittle areas of calcification. Distinct ulceration with atheroma is not readily demonstrable. Diffuse calcification is not infrequent and small aneurysmal dilations may be present. The following protocol illustrates the advanced lesions occurring in animals receiving large doses during a considerable period of time.

Rabbit No. 3. Weight, 870 grams. Received first injection of 3 minims in ear vein on November 30, 1904. Similar injections were repeated on alternate days until December 30th, after which date the dose was rapidly increased until it reached 20 minims daily. The animal was killed on January 20, 1905. *Autopsy:* Weight, 1,150 grams. The thoracic aorta

measures six millimeters in diameter, is distinctly dilated, irregular in outline, stiff and brittle, although the wall is apparently thinned. This condition extends as far as the cœlic axis, beyond which point the abdominal aorta is apparently normal. On opening the aorta the inner surface of the abdominal aorta above the cœlic axis shows numerous yellowish, slightly raised, calcified patches one to one and five-tenths millimeters in diameter, which in the upper portion of the thoracic aorta become confluent. Except in one of the small patches situated in the upper portion of the abdominal aorta there is no evidence of ulceration. All other organs are negative.

The following description from the protocol of a parallel experiment illustrates the tendency to the formation of small aneurysms:

Rabbit No. 2. The aorta averages three millimeters in diameter except at three places where distinct dilations occur. The first of these begins three centimeters below the origin of the aorta and involves the right anterior wall of the aorta for a distance of two centimeters, giving the appearance of a fusiform aneurysm; the diameter of the aorta at this point is four millimeters. A second dilation, two and five-tenths centimeters in length, occurs in the distal portion of the thoracic aorta and a third involves the abdominal aorta for a distance of one centimeter immediately below the cœlic axis. On section the inner surface of the aorta shows sharply circumscribed saccular dilations, varying from one to two millimeters in depth, and corresponding to the protrusions described above. The walls of these aneurysms contain firm plaques of calcareous material. The intervening aorta shows a number of yellowish-white elevated areas one to three millimeters in diameter. The aorta below the dilation at the cœlic axis is macroscopically negative.

Histology. In the group presented by the nine rabbits which died during the first two weeks, the vessels of but two showed histologic changes. These were animals which had received four and five injections, respectively. The first died on the fifth day and the second on the ninth day. Scattered through the middle coat of the aorta in each of these are small longitudinal or occasionally irregular, finely granular foci of degeneration. In these areas no nuclei are visible, and the muscle fibres are transformed into a finely granular, almost hyaline material, which stains deeply with eosin. The exact nature of this change is not readily determined, but as the various methods of demonstrating fatty transformation are negative, and those which differentiate elastic fibres show no change in the staining reaction of the latter, the condition would appear to be a simple necrosis limited to the muscle fibres. The elastic tissue has, however, undergone very

characteristic morphologic changes, which are found only in the degenerate areas, and are due, presumably, to mechanical influences. In the normal aorta the elastic fibres have a distinctly wavy or curled appearance, and are definitely separated from one another. In the areas described the fibres lose this appearance and become straightened and closely approximated. They are also swollen and occasionally appear to be fused together. Fracture of the fibres is seldom seen at this stage of the process.

A more diffuse lesion of this character was found in an animal killed on the twenty-fourth day after receiving eleven injections. The changes involve the entire circumference of the vessel, sparing to a certain extent, the innermost and outermost portions of the media. In this central zone few or no nuclei can be found, and the altered tissue presents a uniform, finely granular appearance, relieved only by the glistening lines of the elastic fibres. The latter, by selective stain, are seen to be so closely massed together that individual fibres can be distinguished only with great difficulty. On either side of this zone the less degenerated portions of the media show irregular areas, which take the hematoxylin stain in a manner very suggestive of early infiltration with lime salts. There is, however, no distinct calcification and no fracture of elastic fibres.

Lesions of great interest in comparison with the above were observed in two rabbits which had received the same number of injections, but which were allowed to live for ten and eighteen days, respectively, after the last injection. In the aorta of each are found a few areas of granular necrosis, but for the most part these areas have been altered by infiltration with lime salts. From the topography of the areas of calcification and their relation to the necrotic foci it is evident that the deposition of lime salts follows the necrosis. It would appear, therefore, that the primary degenerative lesions are well advanced by the end of the third week, and that, after this, but one or two weeks' time is sufficient for advanced calcification. The latter may, however, occur much earlier, for in one rabbit, killed on the sixteenth day, small but very definite foci of lime infiltration were present.

In the areas of lighter deposition of lime it is seen that these salts are first deposited between the elastic fibres, an observation which indicates that the destruction of the muscle fibre is the older, and therefore in all probability the primary lesion. In the areas of advanced calcification, although the elastic fibres appear

to be completely destroyed by the calcareous transformation, Weigert's stain shows them to be still present, though they stain poorly and are frequently fractured. Not uncommonly at a point of fracture one bundle of fibres overlaps another, the ends being splinted together by an encapsulating mass of lime salts. These fibres are always perfectly straight, except at angles formed by fracture. A definite relation appears to exist between calcification and fracture of the elastic fibres. In areas of the most extensive calcification few breaks in the elastic fibres have been observed, while, on the other hand, they are constantly present in the aneurysmal dilations which show comparatively little calcification.

Lesions of this stage show the first evidence of repair. This is indicated by the collection of newly formed cells about the foci of calcification. These cells are closely massed, surrounded by but a slight ring of protoplasm, and appear to be of connective-tissue origin, though it has been impossible to always distinguish between such and the nuclei of smooth muscle fibres. No accumulation of polymorphonuclear leukocytes, or lymphoid cells, has been seen. Of greater interest are the proliferative changes in the intima. These occur only opposite distinct breaks of considerable depressions in the media, and include proliferation of the lining endothelium and, to a greater extent, the subendothelial tissues. The endothelial cells proliferate to form two or three layers of cells longitudinally arranged, while the subendothelial space, barely visible in the normal aorta, becomes very prominent owing to the presence of closely packed oval nuclei arranged vertically to the lining endothelium. Between the nuclei are delicate, newly formed connective tissue and elastic fibrils. In the late stages the newly formed elastic fibrils are very prominent. In the angle of fracture the nuclei of the media assume a perpendicular arrangement, very striking in contrast to their longitudinal arrangement elsewhere. The entire picture is distinctly that of a compensatory proliferation—an effort to strengthen the weakened point in the vessel wall.

Such are the essential phases of this lesion in the order of their sequence. The more prolonged experiments offer no fundamentally new features, but the combinations of these primary changes in the course of the more extensive involvement of the vessel wall, lead to a complex histologic picture closely resembling advanced human arteriosclerosis. This is seen only in animals

which have received gradually increasing doses during a period of seven or eight weeks. The vessel wall becomes greatly thickened, not only by infiltration of lime salts, but also by an extensive repair process, which involves the intima as well as the media. Small foci of complete necrosis, analogous to atheroma and entirely different from the primary degeneration, are also seen in areas in which the elastic fibres are completely destroyed. These present a uniform, finely granular appearance, and stain deeply with eosin. The osmic acid method for fat is negative, but a few fine droplets are evident after treatment with scharlach R. About such areas repair takes place, but it is not as active as it is about the masses of lime salts.

The most striking feature of the late histologic picture is the extent of repair in the intima. The latter, with its newly formed connective tissue and elastic fibrils, becomes so greatly thickened that it constitutes in some places a quarter to a third of the entire vessel wall, and offers convincing evidence of the compensatory nature of the repair process.

It is in these late lesions that the small aneurysms are seen. They occur at points where the elastica is so completely destroyed as to be transformed into an indistinct mass of fractured granular and fused fibres. The transition from normal to necrotic fibres is always sharp and distinct, and marked by complete fracture of all elastic tissue. It is worthy of note that in the thinned wall of these aneurysms the degree of calcification is, as a rule, less marked than elsewhere. The adventitia is compressed, but otherwise unaffected.

The changes in other organs include enlargement of the heart, edema, and congestion of the lungs, and occasionally degenerative changes in the heart and skeletal muscles. In one case degenerative lesions were found in a nerve ganglion adherent to the aorta. It was thought that these changes might have some etiologic relation to the vascular lesion, but a thorough study of all our material failed to reveal lesions in other animals or in other ganglion of the same animal. The affected ganglion was in the adventitial tissue of an aneurysmal dilation, and the effects of pressure and disturbed blood supply were sufficient, apparently, to account for the changes observed.

The Mode of Action of Adrenalin. The manner in which adrenalin produces these lesions is a matter of widely varying opinion, and, unfortunately, one which cannot readily be deter-

mined by our method of experimentation. Until we know more about the toxic action of adrenalin and can distinguish between the lesions due to this action and those due to increased blood pressure, and especially between its direct and secondary effect on the blood-vessels, we can hope for no elucidation of this problem. Drummond,⁹ who has recently made a thorough study of the histologic lesions caused by adrenalin, divides all into those due to toxic action and those due to increased blood pressure. It is obvious that such a classification is difficult, for it is impossible to determine to what extent degenerative lesions are due to interference with the circulation through action on the blood vessels.

A discussion of the variety of ways in which adrenalin might act, directly or indirectly, to cause degenerative changes in the media of the aorta would, in the present state of our knowledge, be of little value. The difficulty of reaching definite conclusions is illustrated by the diversity of opinion expressed by those who have previously produced the lesions here described. Josué believes them to be due to a combination of a specific toxic influence and the increased blood pressure. Rzentkowski believes in the latter influence only. Erb ascribes an important influence to disturbance of the vasa vasorum. Fisher thinks that, aside from the increased blood pressure, disturbances of metabolism play an important part. Lissauer¹⁰ believes that the toxic influence is the most important factor, but offers no explanation of its mode of action.

No definite conclusion can be drawn from our own experiments. The observation that the earliest changes occur in the media and are apparently primary in the smooth muscle fibres suggests, in view of the well-known physiologic action of adrenalin on this tissue, a direct and selective toxic action; but the absence of similar lesions in vessels other than the aorta does not support this view. For the same reason, and also because of the absence of changes in the adventitia, the vasa vasorum theory appears to be untenable. On the other hand, if we assume, as is very probable, that the changes in form and arrangement of the elastic fibres are due to the same factor or factors which causes the destruction of the muscle cells, and are not secondary to the latter, we have a strong argument in favor of the influence of a greatly-heightened blood pressure at the time of the ischaemia due to the primary action of the adrenalin. In other words it is possible that at the period of vascular spasm produced by the

adrenalin the nutrition of the vessel wall is altered. This would not explain the limitation of the lesion to the aorta but the added mechanical disturbance due to the extreme distention of the vessel wall would appear to be sufficient to bring about a condition analogous to anaemic necrosis. These problems, however, must be settled by other methods of experimentation. Although it is impossible to determine to what extent the primary changes are mechanical and to what extent toxic in nature, it is certain that some of the secondary changes, as the fracture of elastic fibres and the formation of aneurysms, are largely due to mechanical factors.

Comparison of the Experimental Lesions and those Occurring in Man. If due allowance is made for the difference in size between the aorta of the rabbit and that of man it must be admitted that the lesions produced in the former as the result of the administration of adrenalin are somewhat similar to those occurring in human arteriosclerosis. They are not, however, analogous. All the essential processes are represented, and, considering the delicate character of the wall of the rabbit's aorta, the lesions are relatively as extensive and cause the same degree of deformity. There is, however, as compared with the human lesion, a difference in the initial lesion and in the degree of atheroma which is insignificant, and limited to the media. Extensive atheroma, however, cannot be expected in a vessel wall as thin as the rabbit's aorta; and, moreover, in none of these experiments has a period of time sufficient for the occurrence of degeneration in areas of excessive intimal proliferation elapsed. More prolonged experiments will yield, it is to be hoped, lesions more conclusive in this respect. For the present the condition may perhaps be regarded as arteriosclerosis for the rabbit, but not as a condition analogous to the arteriosclerosis of man.

In the light of the information gained from the study of these experimental lesions it would be desirable, perhaps, to critically discuss the various theories concerning the nature of arteriosclerosis, and especially the character and sequence of the histologic changes. Such discussion, however, does not come within the scope of this communication, and many minor points must be determined before comparisons are justifiable. It is sufficient for the present to point out the strong support afforded Thoma's view that the primary lesion of arteriosclerosis occurs in the

media, and is, essentially, the result of injury to the elastica and that the changes in the intima constitute a repair process, the object of which is to compensate for the weakened media and the widened lumen.

EXPLANATION OF PLATES I AND II.

Fig. 1. Gross appearance of a portion of the aorta from an animal which had received 27 injections and was killed on the 29th day. The drawing is twice the actual size of the original specimen.

Fig. 2. Diffuse degeneration of central zone of media; 11 injections; 24th day; haematoxylin and eosin; 4 oc., 3 obj.—Leitz.

Fig. 3. Microscopic picture of lesion shown in fig. 1. Destruction of media with infiltration of lime salts; extensive proliferation of intima and subintimal tissue; haematoxylin and eosin; 4 oc., 3 obj.—Leitz.

Fig. 4. Elastic tissue stain of an area very similar to the above illustrating extreme destruction of the elastica.

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FIG. 1

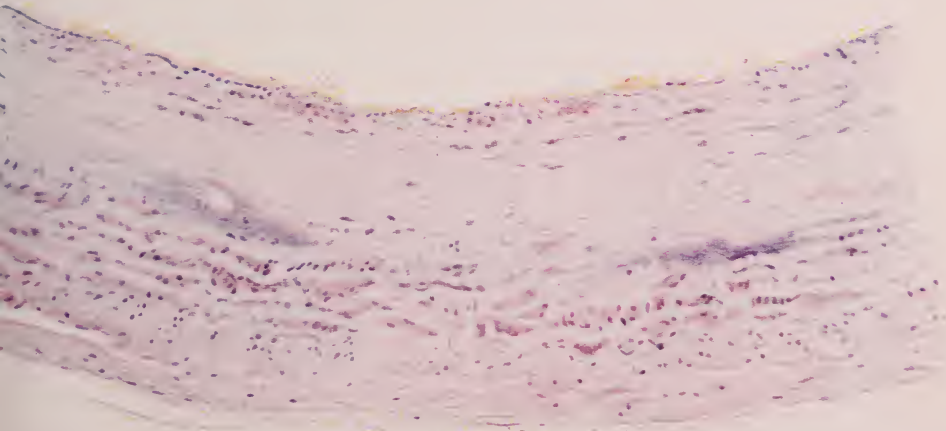


FIG. 2

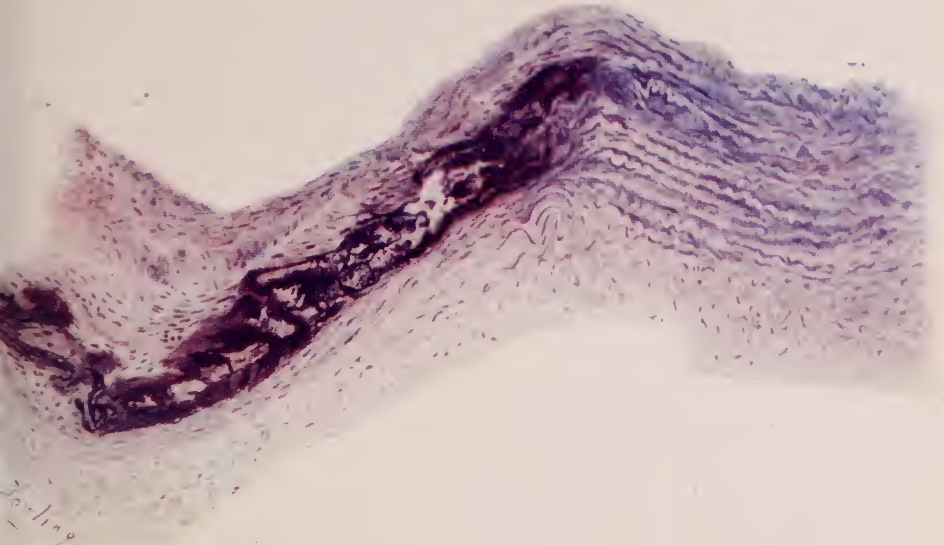


FIG. 3

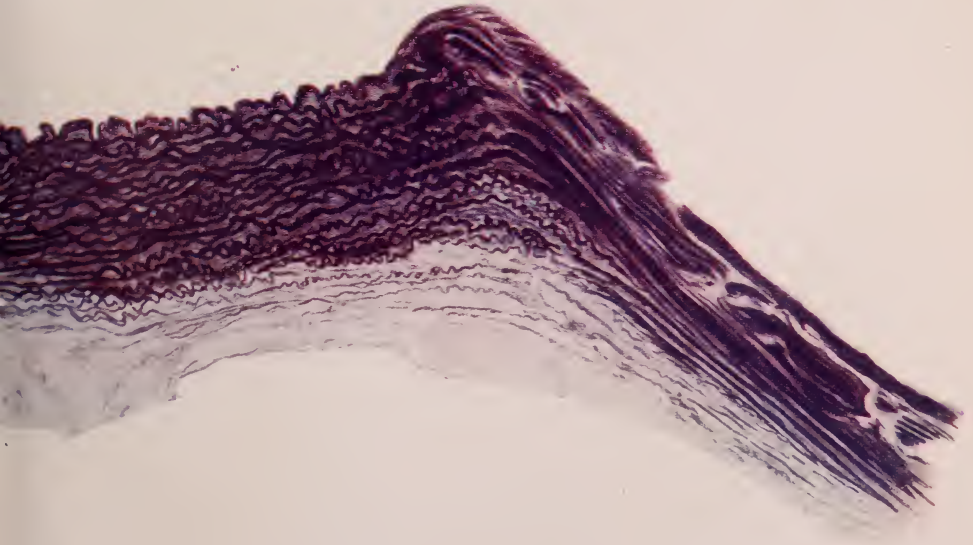


FIG. 4

EXPERIMENTAL CIRRHOSIS OF THE LIVER.*

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(Plate III.)

The experimental studies upon which this communication is based were suggested by an investigation¹ of the necroses occurring in the liver of the dog as the result of the intravenous injection of haemolytic immune sera. These necrotic lesions, which appear to have a very definite relation to thrombi composed of fused red blood corpuscles, vary in position and extent according to the amount of serum administered. Small doses cause focal lesions more or less isolated and irregularly distributed; large doses produce a diffuse necrosis which spares only the tissue about the larger portal spaces. The uniformity and extent of this latter lesion suggested the importance of studying the repair process which naturally follows it in those animals surviving the acute toxic effects of the serum. It was evident that the extent of the injury was such as to preclude complete repair by the regeneration of liver cells alone. If then, the defect were to be repaired by connective tissue proliferation the resulting histological picture would, except for a difference in the distribution of the new tissue, closely resemble cirrhosis in man.

Experiments based on this method have not, heretofore, been made. Joannovics,² alone, of the few investigators who have studied the lesions of the liver due to haemolytic sera, has described repair about foci of necrosis. Flexner,³ in 1894, while studying the lesions occurring in the organs of the rabbit after the injection of dog's serum observed a well marked cirrhosis due apparently to repair about multiple necroses. The lesion was found, however, but once and could not be reproduced in other animals. The literature contains, as far as I am aware, no other references to similar lesions due to serum injections.

Methods.—Dogs were injected either in the smaller branches of the femoral vein or in the abdominal cavity with serum obtained from rabbits which had received repeated injections of

* This study has been conducted under a grant from the Rockefeller Institute for Medical Research. Read before the American Association of Pathologists and Bacteriologists, Chicago, April 19, 1905. Published also in *The Journal of Experimental Medicine*, 1906, viii, 64.

the red blood corpuscles of the dog. The dose usually employed was one cubic centimetre of serum to 500 to 1000 grammes of body weight. The majority of the animals died within forty-eight hours; those which survived were killed at intervals varying from forty-eight hours to thirty-six days.

Character of the Primary Necrosis.—The necrotic lesions in the liver vary according to the dose of the serum. As the etiology and the general character of the focal necroses have been discussed elsewhere, only the more extensive form of necrosis, which, through an equally wide-spread process of repair leads to cirrhosis, will be considered at this time. The macroscopic appearance of the liver in animals dying within a few minutes or hours after injection is that of intense congestion. Microscopically, the vessels are found to be distended by closely massed red blood corpuscles. The coalescence of red cells is very evident in the portal veins; while in the capillaries the occlusion leads to a distension so great that the columns of liver cells are more or less obscured. This congestion is less evident about the larger portal spaces. After twenty-four to forty-eight hours, the liver presents a uniformly mottled appearance; fine irregular yellowish brown or greyish yellow non-elevated areas being sharply separated from deeply congested or occasionally even haemorrhagic areas. On section the brownish portions have a distinct hyaline appearance. The superficial portions of the liver are uniformly more extensively involved than are the deeper portions though in some of the smaller lobes the necrosis may be quite general. Histologically, the necrosis, which is hyaline in character, involves all portions of the liver tissue except circular areas of varying size in the immediate neighborhood of the larger portal spaces (see Fig. 1).

In the necrotic areas the destruction, as far as the hepatic cells are concerned, is uniform and complete; the cells of the capillaries may, however, persist. A narrow ring of liver cells with vacuolated protoplasm and pyknotic nuclei separates, as a rule, the necrotic from the normal tissue. Leucocytic infiltration may or may not be present. The capillaries of the necrotic tissue are widely dilated and tightly packed with swollen and distorted red blood corpuscles which may occur in masses or may retain distinct outlines. In the congested portal veins on the other hand the fusion is quite constant, the plugs for the most part having a distinctly hyaline appearance. The perivascular spaces

of the capillaries are distended with serum and the bile passages of all sizes are, as a rule, dilated and engorged with bile.

The cause of the necrosis is an obstructive congestion of the capillaries and the smaller branches of the portal vein by fused masses of red cells. To the effect of this obstruction, essentially a thrombosis, is added the pressure exerted by the perivascular oedema and the over-filled bile capillaries. In portions of the liver midway between the larger portal spaces these factors are sufficient to overcome the pressure in the capillaries from the hepatic artery and necrosis results; the cells in the neighborhood of the larger portal spaces, on the other hand, are preserved through a better supply dependent, presumably, upon the greater arterial pressure in this region.

A review of the literature of infarction of the liver in man and of experimental infarction shows no condition analagous to that here described; nor are any of the theories put forth concerning the etiology of infarction applicable to it. A possible exception is the wide-spread haemorrhagic infarction produced by Wooldridge⁴ as the result of injecting into the jugular vein of the dog a complex proteid substance derived from the thymus and other glandular organs. The infarctions were associated with thrombi in the branches of the portal vein and in this regard as well as in the character of the necrosis, Wooldridge's lesion resembles that just described. Moreover, in animals which survived fourteen days, he observed scattered foci of repair resembling early cirrhosis. He does not consider the thrombosis alone to be sufficient cause for the necrosis, but believes that an important adjuvant is some change in the chemical composition of the blood caused by the proteid substance injected.

*The Reparative Process.**—Only fifteen of forty-three animals survived the acute effects of the serum a sufficient length of time to allow repair of the liver lesion to take place. The liver of each, however, shows some stage of repair, and as various periods from thirty-eight hours to thirty-six days are represented, it has been possible to study all stages of the development of the cirrhotic lesion.

At thirty hours the first and only evidence of repair is karyokinesis of the liver cells. This, however, is not conspicuous and

* Only a general outline of the reparative process will be given at this time; the details of the finer changes and their interpretation will be presented in a future communication on the repair of liver tissue.

the mitotic figures are found only after prolonged search. They occur, uniformly, not at the edge of the necrotic tissue, but in liver cells two or three rows removed. Mitotic figures have never been seen earlier than thirty-eight hours, and at this period in but one animal.

The period from forty-eight to sixty hours is represented by five animals. The character of the repair is the same in all, but some difference in degree is evident. The most striking feature is the proliferation of the endothelial cells. These surround the necrotic tissue and penetrate it from every side. Similar cells corresponding to the remains of the capillaries may be seen in some places within the necrotic areas. Many of these cells have irregular nuclei suggestive of mitosis, but a definite karyokinetic figure, in a cell surely endothelial, was found at this stage but once; and this was in the liver of an animal killed exactly forty-eight hours after injection. The endothelial cells show a tendency to surround small fragments of necrotic liver cells and occasionally they contain one or two red blood corpuscles. Leucocytic infiltration occurs to a very slight extent.

By the end of the fourth day the proliferation has advanced so rapidly that the bulk of the necrotic tissue has been replaced. Within the necrotic areas the bands of new tissue are more definite. Mitotic figures in liver cells are so numerous that three or four may be found in one field of a one-twelfth lens. A few lymphoid cells are seen in the portal spaces.

The picture at the fifth day differs only in the extent of the process. The new tissue has assumed all the characteristics of granulation tissue and contains giant cells which surround fragments of hyaline material. The first suggestion of intercellular fibrillæ is seen at this stage.

The later stages from the eleventh to the thirty-sixth day illustrate the gradual transformation of this young granulation tissue into a very definite connective tissue. At the eleventh day the new blood vessels are very prominent and the fibrillated character of the connective tissue well marked. All stages after the fourth day show a few scattered lymphoid cells, but this has not been a prominent feature except in one animal, killed on the twenty-fifth day, in which the tissues of the portal spaces were filled with lymphoid and plasma cells.

The oldest as well as the most typical lesion was that found in an animal killed on the thirty-sixth day (see Fig. 2). Micro-

scopically, the liver was much firmer than normal, had a finely granular surface, and was deeply bile stained. The capsule showed irregular areas of thickening and was mottled by an ill-defined congestion. On section a distinct pseudo-lobulation was evident; definite islands of brownish yellow liver tissue being marked off by a fine greyish network of newly-formed tissue. Histological examination shows broad bands of connective tissue entirely replacing the necrotic areas and forming a uniformly arranged network separating the surviving islands of liver tissue about the larger portal spaces. The new tissue is distinctly fibrous and contains many newly formed blood vessels and bile ducts; it stains deeply by Mallory's connective tissue method. The formation of new liver cells is still demonstrable. Fragments of necrotic hyaline cells, not infrequently partially calcified, are found in the midst of the new connective tissue. Large irregular multi-nucleated masses of protoplasm surround these and are apparently active in englobing and removing them. These multi-nucleated cells, essentially foreign body giant cells, are derived in part from endothelial cells and in part from liver cells. Associated with them are numerous multinucleated liver cells without inclusions. Lymphoid and plasma cells are present, but only in small numbers.

Discussion.—The final stage of the lesion herein described, constituting as it does a chronic interstitial hepatitis of diffuse, but uniform distribution, may justly be termed an experimental cirrhosis. No close analogy, however, can be drawn between it and human cirrhosis, for, with the possible exception of the so-called central cirrhosis associated with chronic passive congestion, a form of interstitial hepatitis with similar distribution of the new tissue does not occur in man. In this connection Bostreom's⁵ recent discussion of liver cirrhosis as a repair process in chronic passive congestion is of especial interest. As the result of a study of material from man he reaches the conclusion that the congestion causes destruction of liver cells not necessarily by pressure of the widened capillaries, but through nutritive and functional disturbances. With these conditions are associated rupture of the capillary wall and the escape of red cells into the perivascular lymph spaces. Thrombosis also is not an infrequent occurrence and has a close relation to the destruction of liver cells. The repair, which is most active in the region of the portal spaces, results in a very definite cirrhosis. When one considers that the

necrosis in my experimental lesion is preceded by an intense congestion associated with all the etiological factors described by Bostroem, the analogy of the repair lesion to the cirrhosis which he describes becomes very apparent. Comparisons as to the etiology of cirrhosis in general are not justifiable, for we know of no toxic substances associated with abnormal conditions in man which are capable of causing the wide-spread necrosis seen in these experimental lesions. The only condition comparable is acute yellow atrophy with which the early necrotic and reparative lesions of the second to the sixth day have much in common.

On the other hand, however, these experimental lesions demonstrate that a cirrhosis may follow extensive primary destructive lesions and thus support the theory of Kretz⁶ that cirrhosis is essentially a reparative process. Kretz, who bases his conclusions on an extensive study of the disease in man, believes cirrhosis to be the result of successive processes of repair following repeated focal injuries of the liver parenchyma. The primary lesion is, he thinks, a destruction of groups of liver cells at the periphery of the lobule. After such destruction the uninjured cells of the lobule, as well as the cells of the bile ducts, proliferate in an attempt to repair the injury. The continued occurrence of degeneration and regeneration causes the formation of new connective tissue which eventually atrophies thus leading to the picture seen at autopsy. Cirrhosis, therefore, is the result of repeated localized destructive lesions from which the liver has more or less recovered. This view it will readily be seen accepts Weigert's⁷ opinion that the primary lesion in all interstitial new growth of tissue is cell death and also includes Kirikow's⁸ opinion that in addition to cell death the continual action of the toxic substance is necessary; but adds the important factor of continuous regeneration.

W. G. MacCallum's⁹ study of the regenerative changes in human cirrhosis strongly supports the theory of Kretz as do also the studies by McPhedran and A. B. MacCallum,¹⁰ Meders,¹¹ Marchand,¹² Stroebe,¹³ Barbacci,¹⁴ W. G. MacCallum¹⁵ and others of repair in acute yellow atrophy of the liver.

The experimental studies of repair after various mechanical injuries also indicates the ease and rapidity with which liver parenchyma repairs loss of substance. From the observations of Podwysozki¹⁶ and Ponfick,¹⁷ it is seen that slight injuries are

repaired by the proliferation of either liver cells or the smaller bile ducts; connective tissue repair occurring only when loss of substances exists. Of special interest is the true hyperplasia observed by Ponfick and by v. Meister¹⁸ after extirpation of large portions (one-quarter to three-quarters) of the entire liver.

On the other hand the argument is presented that focal necrotic lesions of the liver frequently occur in man without repair either by proliferation of parenchymatous cells or by formation of connective tissue. In this connection the liver lesions of typhoid fever, diphtheria and other acute infections as well as various experimental infections of animals are quoted. It is probable, however, that in such cases the reparative power of the cells is in some way delayed, or consists possibly of a true regeneration of liver cells without the proliferation of connective tissue; for in hog cholera, in which above all other diseases, necroses of the liver are most abundant and widespread, cirrhosis of the liver commonly occurs. Salmon, Smith and Kilborne,¹⁹ in the study of hog cholera in an epidemic including both acute and chronic cases, found well marked cirrhosis in about half of the animals examined.

The question as to whether the interstitial tissue or the parenchyma is primarily affected in cirrhosis receives little enlightenment from the literature of experimental cirrhosis. Heukelom,²⁰ who reviewed the literature up to 1896, collected nineteen different methods said to be capable of producing cirrhosis and to these Joannovics²¹ in a recent summary adds others. None, however, produce a lesion analogous to that occurring in man. These methods may readily be divided into two groups. In the first we have procedures essentially mechanical in nature, as ligation of the ducts or vessels of the liver, the injection of irritating substances into the ducts or directly into the liver substance, and their application to its surface. The second group includes the administration by the mouth, or by subcutaneous or intravenous injection, of various toxic substances. As a general rule the mechanical methods lead to a more or less irregular connective tissue formation, sometimes with considerable sclerosis, but the lesion under these circumstances is more of an atrophy than a cirrhosis. The toxic agents, for which positive results have been claimed, have been introduced so that they reach the liver through the blood stream. The lesion attributed to such substances is usually described as a primary degeneration

of the liver cells with a slight increase of connective tissue, limited as a rule, to the portal spaces; in a few instances a definite perilobular growth of connective tissue, independent of parenchymatous degeneration, has been described. Few of these lesions, however, even in their final stages are comparable to the cirrhosis of man and in none has it been possible to follow step by step the development of a lesion which could probably be termed an experimental cirrhosis.

Summary.—The reparative process which follows the widespread necrosis of the dog's liver caused by the injection of hæmagglutinative serum constitutes a chronic interstitial hepatitis of definite and constant character. This is not only a new type of experimental liver lesion, but is more definitely a cirrhosis than is any other experimental lesion hitherto described. It is of importance in explaining the histogenesis of cirrhosis, and incidentally various repair processes in the liver; but does not aid in the elucidation of the etiology of cirrhosis in man, nor does it explain the peculiar arrangement of the new connective tissue in any form of human cirrhosis except, possibly that associated with chronic passive congestion. It definitely demonstrates, however, that cirrhosis may follow extensive primary destructive lesions, a view not yet fully accepted, and supports the contention of Kretz that cirrhosis is essentially a reparative process.

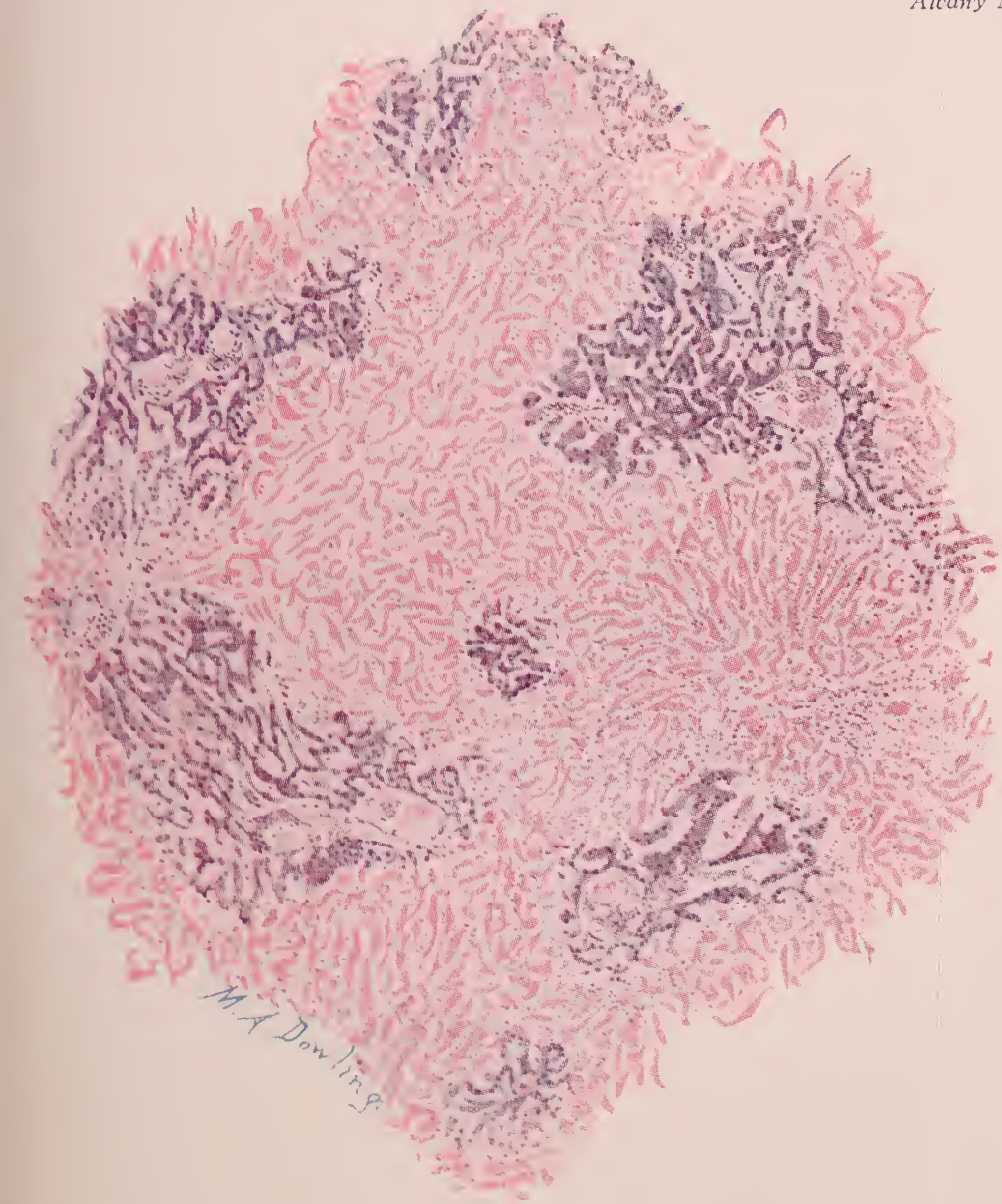
EXPLANATION OF PLATE III.

Fig. 1—The primary lesion. Extensive hyaline necrosis sparing only the tissues about the larger portal spaces. Thirty-eight hours. Dose, 1:1000. Methylene blue and eosin. No. 2 oc., No. 3 obj., Leitz.

Fig. 2—Experimental cirrhosis. Broad bands of newly formed connective tissue surround the islands of normal liver about the portal spaces. In the stroma may be seen newly-formed bile ducts and numerous giant cells. Thirty-six days. Dose, 1:1000. Methylene blue and eosin. No. 3 oc., No. 3 obj., Leitz.

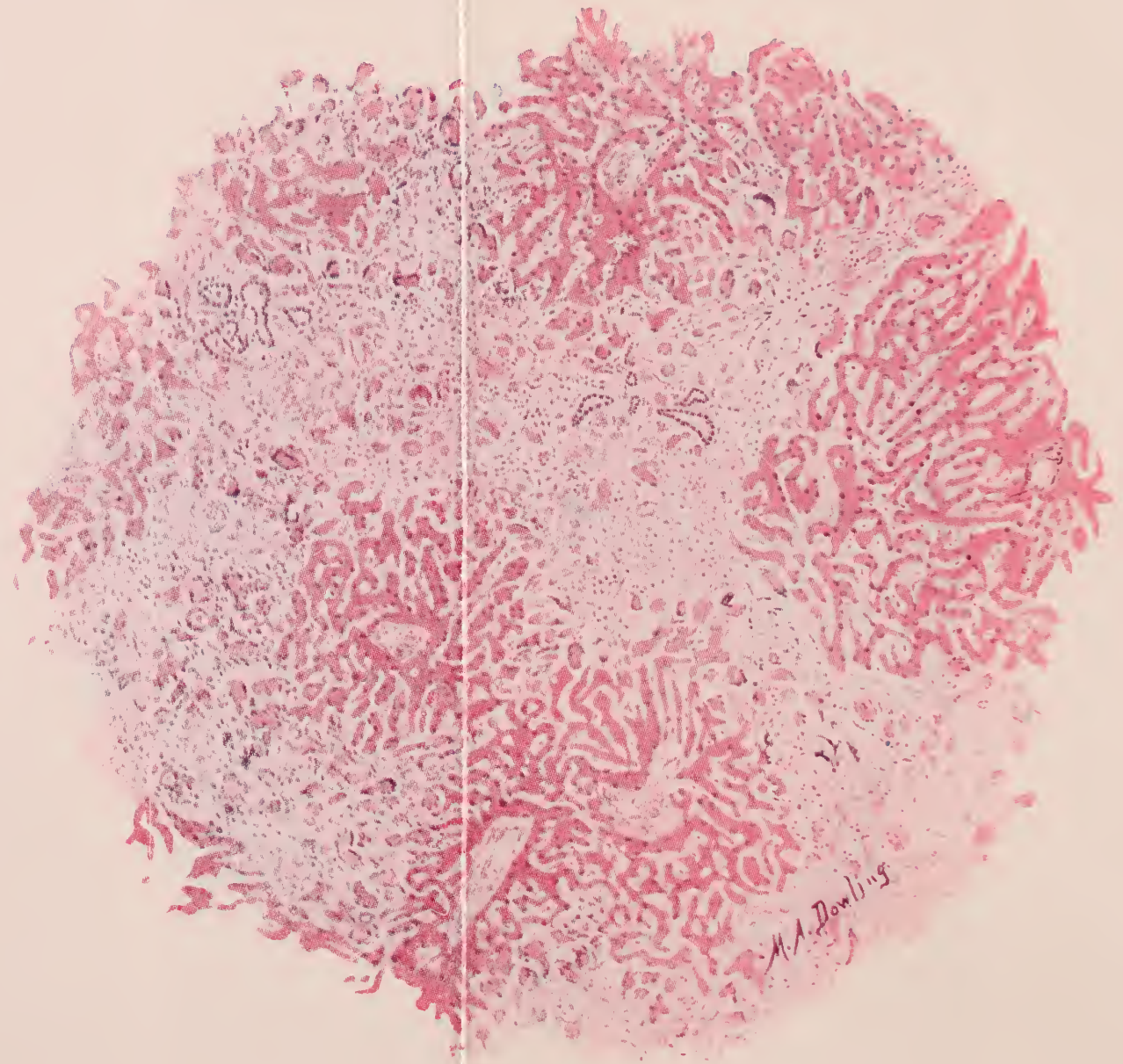
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M.A. Dowling

FIG. 1



M.A. Dowling

FIG. 2

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THE ROENTGEN RAYS AS A FACTOR IN MEDICINE.

Read before the New York Academy of Medicine, October 5, 1905, and the Medical Society of the County of Montgomery, October 15, 1905.

By ARTHUR HOLDING, M. D.,

Attending Specialist in Electro-Radio-Therapeutics, Albany Hospital, Albany, N. Y.

Röntgen's discovery is now ten years old and during this time we have come to realize that it is not only a diagnostic agent but that it also has a physiological action, with indications, contraindications, and therapeutic value. On the skin, attention was early called to the X-ray "burns."

Their characteristics of latency of development and stubbornness in healing associated with the histological findings of atrophy of the cells in the skin's appendages, and endarteritis obliterans has later caused these manifestations to be looked upon more as gangrenes than burns. Corneal ulcers, alopecia, eczema, parchment-like dryness, exfoliation of nails, and preepithelial keratoses were occasional. In cases where extensive areas were involved and that were fortunate enough to heal, there was much soft scar-tissue and frequent telangiectasis.

Such calamities practically never occur to the patient today. The only persons seriously endangered are those who are frequently in the rays. The operators themselves have suffered the most. Three have already departed this life after hav-

ing submitted to repeated amputations of fingers, hands, arms, even to and beyond the shoulders. One surgeon reports a case in which epitheliomata developed on the hands in nine different places; the diagnosis of each lesion being confirmed by competent microscopical examination. Parts of five fingers were amputated, the ulcers exercised, and skin grafting done. This required a long course of treatment but the condition was ultimately controlled.

In my own experience some thirty operators have been troubled by chronic lesions on their hands, presenting all the stages from the so-called chronic eczema (?) up to lesions requiring amputations of fingers and arms.

EFFECT ON DEEP STRUCTURES.

Within the past two years attention has been called to the action beneath the skin, particularly on the spleen, lymphatic tissues, bone-marrow, ovaries, testicles, and prostate glands. On all of these the rays have a destructive action. In the lower animals this destructive action has been observed after exposures, aggregating 195 minutes. Van Allen has reported the examination of fifteen cases of men who had been treated with the X-rays for therapeutic purposes. In every case that had received more than fifteen treatments over the perineum, he could find no spermatazoa in the spermatic fluid. Some of the cases were examined one year after cessation of treatment and their semen was still sterile. These symptoms are accompanied by no loss of sexual desire. Pusey has demonstrated the destruction of epithelial cells in carcinomata and their substitutions with connective tissue cells. Therefore in the discovery of Röntgen, we have an agent with a varied physiological action and a selective action on the more highly organized glandular cells. The above facts verified by competent observers establish a scientific basis for many of the therapeutic claims made for the X-rays.

It is only a confession of limited experience or faulty technique for anyone to deny the at least ameliorating if not curative effect of these rays in epidermoids, carcinomata of the breast, spleno-myelogenous leukaemia, pseudo-leukaemia, tubercular adenitis, lupus, psoriasis, pruritus, eczema, acne. Because of the expense, length of treatment, X-rays are only to be recommended after simpler and quicker methods have failed. In fact,

I never recommend it in any case where other therapeutic procedures offer equally good results.

Its value as a diagnostic agent for bone lesions and foreign bodies needs no mention here; but the X-ray's value in diagnosis of chest diseases has not received the attention they merit. In several clinics in Europe an X-ray examination of the chest is considered as important as the observation of the physical signs. This will obtain here when the profession realizes the ease and accuracy of the method in competent hands.

While this agent is dangerous, yet it is useful; those who have become proficient with it seem loath to abandon it, as they have spent several of the best years of their lives mastering the intricacies of electricity, photographing and vacuum tubes. The problem that must be solved is that of safety of the operators.

Fluoroscopic examination should never be made. A screen examination with the observer protected from the rays is the only safe procedure in those cases where it is important to watch the excursion of the diaphragm and pulsations of the heart or aorta.

Various protectors have been suggested, some to be worn by the operators, some to be placed on the tubes, and others to be interposed between the tubes and the operators. A metal of high specific gravity must be employed, and lead is the favorite. A lead suit or armor would be too cumbersome and heavy, while the practice of wearing a lead apron is insufficient protection. It will cover the abdomen and pelvis, but with an agent as powerful and dangerous as the X-ray has proved, one should not needlessly expose the liver, heart, kidneys, spleen, intestines, brain, blood, and lymphatic systems. If a substance as heavy as lead is used to surround the tube, it should have the tube holding support attached to it; instead of clamping the tube into the tubeholder and allowing the delicate glass to support all this weight. When the tube is surrounded in this manner the operator cannot judge the character of the rays by the fluorescence of the glass; for this reason experiments are now being made with tubes made of lead glass. The operator must be protected not only from the direct rays but also from the secondary rays set up whenever the direct rays impinge on other matters.

The switchboard and all regulating apparatus should be on

the side of the room farthest removed from the X-ray tube. A lead covered barrier should surround the operator; mirrors can be so arranged that the patient, the tube, and the apparatus can be constantly under inspection. The short exposures that the patient is subjected to for skiagraphs probably inflict no material injury on him. When the patient is subjected to therapeutic exposures, normal parts must be protected.

In conclusion it may be in order to state that radium is not superior to the X-rays for therapeutic purposes, but as it is free from connecting electrical wires, it can be used in cavities such as œsophagus, stomach and bladder, where X-rays cannot be applied directly.

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OUR LABORATORY ADVANTAGES.

An address delivered before the Albany Medical College Alumni Association of Central New York at a meeting held at Utica, September 27, 1905.

By HERMON C. GORDINIER, M. D.,

Professor of Physiology and Anatomy of the Nervous System, Albany Medical College.

Mr. Chairman, Fellow Alumni, Ladies and Gentlemen.—I fully appreciate the courtesy you have extended, in permitting me to make a few remarks relative to our laboratory advantages. In return, I not only want to express my personal thanks but those of the faculty.

Those of us who graduated ten, fifteen, twenty or more years ago, cannot but appreciate the great advantages which our college now offers to the student of medicine. How enthusiastic we were in those days with the few laboratory facilities offered us. How well we remember the excellent courses in practical histology and pathology given by our beloved teacher, Professor William Hailes. His devotion to and his thorough knowledge of these subjects, the great accuracy with which he described the specimens, his artistic ability, the enthusiasm with which he spurred on the students to better efforts and above all to his kindness and loyalty to the students. These were some of the many attributes which endeared him to us. While we did but little of the practical work, hardening, embedding, cutting, staining, etc., we were presented with plenty of material well prepared

and described, and each of us obtained splendid histological and pathological collections.

In those days but few well equipped pathological laboratories and museums were to be found in this country, hence it became a necessity, if one cared to enlarge one's knowledge in this particular field, to devote several months abroad with some one of the great teachers. Our teaching body, early recognizing the importance of greater laboratory facilities particularly in pathology and in that recently developed and closely allied branch, bacteriology, were enabled through the munificence of Matthew W. Bender, to erect the Bender Hygienic Laboratory. We were also very fortunate through the recommendation of Professor William Welch of engaging as the first director of the laboratory, Dr. George Blumer, an earnest scientific worker and a truly great teacher. The laboratory under his guidance was thoroughly equipped with scientific apparatus through the generosity of the faculty and was formally opened in 1896, since which time our students have received thorough courses in histology, general and surgical pathology, bacteriology and clinical microscopy. This work is entirely practical. Each student is required to witness the post-mortems, and to study and familiarize himself with the gross appearances of the specimens as well as to stain, mount, describe and draw the various microscopic appearances.

In bacteriology the course is also eminently practical, the student being obliged to make the various nutrient media and to cultivate and to study the morphological appearances, tinctorial reactions, etc., of the various pathogenic and non-pathogenic bacteria.

In clinical microscopy the students are taught all the more modern methods of examination of the blood, urine, sputum, stomach contents, faeces, and the cytological methods connected with the examination of transudates, exudates and the cerebro-spinal fluid.

An entirely new course recently inaugurated at the laboratory is a practical one on anatomy, histology and pathology of the nervous system. This course is given in conjunction with my lectures on this subject at the college and is in preparation for the very instructive lectures and clinics of Professor Hun on neurology.

The loss two years ago of Dr. Blumer from our teaching

corps seemed to create an abyss which would long go unfilled. But owing to his endeavors, we were enabled to secure the services of Dr. Pearce, a gentleman well trained in pathology and bacteriology, under whose guidance the work of the laboratory has continued uninterruptedly. In addition to the regular curriculum Dr. Pearce has encouraged our students and alumni to do advanced work in the various branches taught, and has also given them abundant opportunities to pursue special lines of research work. This has resulted in the Bender Hygienic Laboratory not only having a local reputation for the excellence of its work, but a reputation which has spread broadcast throughout the land.

The laboratory has taught our students a great deal, and our faculty not a little. It has been a stimulus to each of us in our work and has had its influence in improving our methods of teaching medicine and surgery. It has attracted an ever increasing number of students, and at the same time furnished a place where the general practitioner, or specialist, who from insufficient knowledge of laboratory methods, or from lack of time from overwork, can send their pathological or other material for examination at a nominal fee. In addition the laboratory has been a place of much usefulness to the various local boards of health in furnishing them with water and food analysis, together with the bacteriological reports of throat cultures and the like. It is a source of much satisfaction for me to be able to inform you, that the laboratory is practically self-sustaining, the annual deficit being very small. This I think the more remarkable when one considers that no laboratory endowment fund has thus far been forthcoming, though we hope it may not be far distant.

I wish to state that the New York State Antitoxine laboratory, through the courtesy of Dr. Pease, the director, it at the disposal of our students. Dr. Pease gives them a course of lectures on the history, mode of production, therapeutic indications, methods of use and proper dosage of the various products of the laboratory.

The intimate relation of physiology to clinical medicine is well exemplified in all departments of medicine but in none so forcibly as in that branch of science known as neurology. While the progress of neurology is in part due to a more clear conception of our ideas of the anatomy of the nervous system,

its origin and the wonderful development made in this department during the past few decades have been entirely due to physiological experimentation. Hence the great importance to the student of medicine of a thorough knowledge of this subject.

Physiology has been taught in many if not most of our medical colleges up to within the past decade simply by means of didactic lectures, illustrated possibly by a few simple experimental demonstrations. Such as the study of the gastric or pancreatic secretions by means of artificial fistulæ, or the action of the heart or circulation on some of the lower animals.

In the Albany Medical College, physiology was taught most successfully for a great many years by my predecessor and teacher, the late Professor Franklin Townsend. His method was almost entirely by didactic lectures with the addition of some animal experiments. Since Dr. Townsend's illness and death the teaching of physiology has been entrusted to me. It has been taught in much the same manner as by him, with the exception that many of the branches have been more elaborated and the student is made to realize the close interdependence of physiology and pathology, as well as the intimate relationship of physiology to clinical medicine and surgery.

I have endeavored to improve the methods of teaching the physiology of the nervous system by demonstrating the more recent advances made in this important branch. Although practical physiological demonstrations have been given, the work has been hampered, owing to inadequate apparatus and lack of room.

Realizing the importance of a special laboratory building for teaching physiological chemistry and experimental physiology, the faculty for some time have tried to obtain the necessary funds for such a purpose. The crisis however came this Spring when it seemed absolutely essential that such laboratory facilities should be at hand for our opening in the Autumn, even though we were unable to erect a permanent laboratory building. Accordingly it was thought best to use a part of the good old college building for such purposes, and it was by the unanimous consent of the faculty that such a laboratory should be created at once. Our committee concluded that it would be best to make use of the very familiar Alumni Hall, to completely evacuate from it, its present contents, and to transfer

them to the southeast corner of the museum. All this has been admirably done. Alumni Hall has been transformed into a perfect working physiological laboratory, and all that remains for its completion is the equipment with physiological apparatus, most of which has been ordered from Germany. We have engaged Professor Jackson, a very competent expert in both these departments, and we are sure, at his hands, you will hear of much good and original work coming from this laboratory in the near future, as well as a place where our students can be thoroughly trained in physiological chemistry and experimental physiology.

The southeast corner of our museum has also undergone a transformation into a very capacious and beautiful lecture room, which we hope will serve you well on Alumni Day.

Editorial

From every human being whose body has been racked by pain, from every human being who has suffered from accident or disease, from every human being drowned, burned, or slain by negligence, there goes up a continually increasing cry louder than the thunder—an awe-inspiring cry, dread to listen to, which no one dares listen to, against which ears are stopped by the wax of superstition and the wax of criminal selfishness. These miseries are your undoing, because you have mind and thought, and could have prevented them. You can prevent them in the future. You do not even try.

The Story of My Heart.

RICHARD JEFFERIES.



The
Ellis
Hospital

The ANNALS has received a copy of the report for the year ending September 30, 1905, of the Hospital Association of the City of Schenectady, the corporate title of the management of the Ellis Hospital, and takes occasion to congratulate the Association and the citizens of Schenectady on the accomplishments and the excellent promise of the institution.

The work of the year has been on approved lines and shows activity. The special features of the report, however, are progress in the erection of new hospital buildings and development of the training school for nurses. The sketch of the new buildings shows a practical plan of a central administration building with a rear extension for service buildings, and two two-story ward pavilions as wings. On the triangular lot enclosed by Rosa Road and Nott Street, which appears ample, are also erected at comfortable distance from the main structure, an ambulance stable and the Whitmore Home for Nurses.

Architecturally the group of new buildings is pleasing. The design is classic, and in the elevation shown carries out the style of Independence Hall of Philadelphia. The organization of the School of Nursing has been perfected. Lectures are given by fifteen physicians and surgeons, and recitations are conducted by the superintendent. The medical board consists of two consulting physicians, four surgeons, six physicians, five specialists, a dispensary staff of six and two house physicians. Sixteen of these, it is gratifying to note, are alumni of the Albany Medical College.

The president of the hospital, Mr. Joseph W. Smitley, states that a total of \$112,660.76 has been subscribed by thirty-two individuals, and he asks, where are the contributions of the other 58,327 citizens of Schenectady? The inquiry is natural. The probable explanation is that the citizens of Schenectady have not yet been educated to an appreciation of the personal value to each of such an institution. Nor is this situation peculiar to Schenectady. The condition of a hospital may be taken as a measure of the forethought of a community in the preservation of its health. An interesting investigation would be one into the amount of accident and health insurance carried by the 58,327 people who have not yet subscribed to this institution. It would probably be shown that greater anxiety had been manifested in the financial than in the biological problem. If hospital authorities expend the same energy as insurance agents in securing contributions, the results would no doubt compare favorably. Indeed, when the use of the hospital is understood by each individual, and there is brought home to him a realization of his own possible needs, there should be no want of coöperation. That each community should provide for the care of its sick and injured is just as important as that

it should sustain a public department for the prevention of disease.

Schenectady is to be congratulated upon the excellent showing of this report and upon the bright prospects of the new hospital.



**The
State
Medical
Library**

Readers of the ANNALS may have noticed during the last year in the department of Current Medical Literature a series of communications from the State Medical Library, prepared by Miss Bunnell, the medical librarian. These have consisted of lists of books, periodicals and donations, and on one occasion, when the subject was urgent, a complete bibliography of cerebro-spinal meningitis. These contributions were of value from the information given and, in addition, carried the assurance to physicians of the practical purposes of this State department and of an active and intelligent administration. The desire to bring this fact to the knowledge of every physician in the State of New York is now emphasized by the publication as one of the Bulletins of the State Library of the list of serials now being received. The total number is 517. The Bulletin has been sent to the county societies and medical journals with an explanatory letter. This deserves careful consideration, and every county society should take prompt action to assist this important enterprise. The action needed is indicated in the communication to secretaries of county societies as follows:

Dear Sir.—We send you herewith our new catalogue of serials in the State Medical Library, which we believe will be very useful, specially to physicians outside Albany. The recent union of the state society and state association and the growing harmony in examinations for license to practice are favorable indications for our State Medical Library. This is a propitious time to strengthen it. For years it has been crippled by insufficient appropriation, the \$5,000 a year agreed on when the Albany Medical College gave their library as a nucleus, never having been granted. I send this circular letter to suggest:

(1) That you call the attention of your society to the importance and value of the state library and urge your

boards to interest their assemblymen and members in giving the promised necessary support of not less than \$5,000 a year;

(2) That you call special attention to the importance of gifts and bequests from physicians. Many of them have older volumes, old numbers of serials and other material which is of practically no use in their private collections and yet might be of great value to us in completing sets and in strengthening our historical medical collection. A single library in the State, available to every physician, should have one copy of everything pertaining to medicine, so that historical researches could be carried on here or by sending for the books.

Often physicians have no one in the immediate family who cares for medical books and could provide in their wills that their collection should be sent to the State Medical Library, where the books not now here could be included and others could be used for exchange, thus helping materially in building up what should be the best medical library in the country except the surgeon-general's at Washington. Will you not at least read this circular letter at your next meeting, or still better, get some one interested to enlist the active sympathies and coöperation of the physicians of your county?

The State Medical Library grows steadily in value and usefulness, but by no means as rapidly as it should to meet the demands of this great State.

MELVIL DEWEY,
Director.

ADA BUNNELL,
Medical Librarian.

Little Biographies

II. ANTONIO SCARPA.

THIS talented scholar and skilled student of surgical anatomy was born at Motta, a small village in Austrian Italy in the year 1746. He obtained a liberal education, and at the age of fourteen entered the medical school at the University of Padua. Scarpa chose anatomy and surgery as his favorite studies and rose so rapidly in favor and reputation that at the age of twenty-two he was elected to the professorship of anatomy in the University of Modena. This position at Modena, the birthplace of Fallopius, he held for fifteen years, and was then made Professor of Anatomy at Pavia, one of the most distinguished positions the medical world of that day had to offer. The classes in anatomy under Scarpa were said to number as many as two thousand students. Here he carried on researches in dissections and surgical methods which made him not only the foremost authority of his own time on surgical anatomy but gave him a name which will always be honored as one of the pioneers in the field of scientific medical research.

His labors have come down to us in the form of many essays and memoirs representing profound and exhaustive application and careful painstaking methods. In 1787 he published "*Anatomicae Desquitiones de Auditu et Olfactu*" which is still looked upon as a classical treatise by the curious in science. Later appeared another treatise on the ear entitled, "*De Structura Fenestrae Rotundae et de Tympano Secundario.*" He describes the membrane attached to the orifice of the fenestra rotunda and also the aqua labryinthi, detailing it with so much care that it has often been called *Liquor Scarpae*.

A few years later he issued a work entitled, "*Tabulae Neurologicae ad illustrandam Historiam Cardiacorum Nervorum.*" Other anatomists had shown that the blood vessels of the heart are accompanied by nerves but to Scarpa is due the discovery that the muscular structure is also supplied with nerves. The plates accompanying the text are masterpieces and have been called "among the best anatomical plates that were ever published." In 1799 Scarpa published a memoir on the structure of bone in which he argues among other things that membranous

bone is not made up of concentric lamellae—a view which we cannot now support. His writings on aneurism, ligation of the principal arteries and hernia were, for a long time, classics in the field of surgical anatomy. Between the years 1801 and 1816 Scarpa presented six editions of a treatise on diseases of the eye, written in Italian and subsequently translated into English by Dr. James Briggs. He describes in detail many operations, some of which he had himself invented. Dr. Briggs also translated his memoir on scirrhus and cancer under the title, "Memoria sullo Scirro e sul Cancro." This essay refers to many points still under discussion. He defines the glandular form of scirrhus as: "A disease of advanced or middle life, attacking most frequently the bilious-sanguine; a solitary affection excessively hard and indolent; insensible until it degenerates into the second or latent stage of cancer when it is attended with pruritus, a sense of burning heat and darting pains." His treatment is distinctly modern, "operate in the early stage."

As the name of Scarpa became widely known, honors flowed in upon him from all quarters and in his sixty-third year he was appointed Rector of the Medical Faculty of Pavia, a position he held for nearly twenty years. He died at Pavia on October 20th, 1832, during an attack of inflammation of the bladder.

To students of the present time he is known as the one who first accurately described and gave the value of the relations in the triangle which bears his name. How inadequate that memory is we can gather from the following tribute paid Scarpa at the time of his death by the Duke of Sussex, President of the Royal Society: "Antonio Scarpa, one of the eight foreign members of the Academie des Sciences of Paris was probably the most profound anatomist of the present age. He was the author of many magnificent and classical works on anatomy, surgery and physiology. He accumulated a handsome fortune by the practice of his profession and collected in his palace at Pavia a considerable number of works of art, where he lived for the latter years of his life surrounded by his pupils, revered by his countrymen, and in the enjoyment and contemplation of that brilliant reputation, the full development of which a great man can rarely live to witness." H. E. ROBERTSON.

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1. "Disciples of Aesculapius." Richardson, 1900. Vol. I, p. 143.
2. "Biographisches Lexikon der hervorragenden 'Aertze.'" 1887. Vol. V, p. 107.
3. "Histoire des Membres des L'Académie Royale des Medicine." 1845. Vol. II, p. 149.

Scientific Review

THE HYPERTROPHIES OF THE THYROID GLAND.

1. Inflammations and Tumors of the Thyroid and Thymus Glands,
J. C. BLOODGOOD,
Pamphlet, Vol. IX. April, 1903.
2. Cysts of the Thyroid Gland. A Clinical and Pathological Study,
Surgery, Gynæcology and Obstetrics, August, 1905.
3. An Experimental Study of the Thyroid Gland of Dogs, with Especial
Consideration of Hypertrophy of this Gland,
S. W. HALSTED,
The Johns Hopkins Hospital Reports, Vol. I, page 373.
4. On the Ætiology and Symptomatology of Goitre,
ADAMI,
Montreal Medical Journal, Vol. XXIX, page 1,
5. The Bradshaw Lecture, Exophthalmic Goitre and its Treatment,
GEO. R. MURRAY,
Lancet, November 11, 1905.
6. Beitrag zur Aetiologie der Basedow'schen Krankheit und des Thyre-
oidismus,
ROBERT BREUER,
Wiener klinische Wochenschrift, No. 29, 1900, page 671.
7. *Ibid*,
No. 33, 1900, page 855.
8. Bericht über ein zweites Tausend Kropfexcisionem,
THEODORE KOCHER,
Archiv für klinische Chirurgie. Vol. LXIV, page 454.
9. *Mittheilungen aus den Grenzgebiet der Medecin und Chirurgie*,
Vol. VII, page 165.
10. *Ibid*,
Vol. IX, page 1.
11. Affections of the Thyroid in California,
H. C. MOFFIT,
The Journal of the American Medical Association. September 16, 1905.
12. Über Dauererfolge nach operative Behandlung des Morbus Base-
dowii,
FRIEDHEIM,
Archiv für klinische Chirurgie, Band 77, Heft 4.

The successful surgical treatment in recent years, of lesions of the thyroid gland, has made possible a more comprehensive study of the pathological conditions met with in this organ. Nowhere in the body, however, do we find a greater diversity of pathologic changes and of processes more difficult of explanation than those met with in this situation.

In 1867 Virchow published his classical description of the anatomical forms of goitre. His classification, which was based

entirely on the macroscopic appearances was the one accepted for many years. Later Wöffer (1883) attempted a classification according to what he believed the mode of origin of the various types of lesion, but as this classification was largely upon a hypothetical basis, it was not accepted to any extent by pathologists. Thus is it apparent that only from a histological standpoint can an intelligent study be made.

In a study of 122 cases made by Bloodgood from the clinic of Dr. Halsted, of the Johns Hopkins Hospital, covering a period of about sixteen years, the following types of lesions were observed: simple goitre, exophthalmic goitre, cysts, foetal adenoma, mixed adenoma, adenoma with metastases, carcinoma, sarcoma and acute and chronic thyroiditis. He has met with no examples of tuberculosis or lues of the thyroid gland. He further divides these various lesions into hypertrophies, tumors and inflammations. Simple goitre and exophthalmic goitre both representing a diffuse process are hypertrophies. In simple goitre the enlargement of the thyroid is a hypertrophy of the more or less normal thyroid tissue. The author insists that "the term simple goitre be confined to the disease in which the entire thyroid is enlarged and which microscopically consists chiefly of dilated, epithelial acini of various sizes, filled with comparatively normal colloid material." It is true that one lobe may be larger than the other and rarely asymmetrical encapsulated tumors are observed which histologically appear exactly similar to the simple goitre, which it seems, might properly be termed colloid adenoma. No direct light has been thrown on the etiology of this condition, although from these observations certain points seem pretty clearly determined. That in certain districts the disease is much more common, notably the mountainous regions of Pennsylvania, Maryland and West Virginia. That the age of onset varies from fifteen to twenty-five years. The disease tends toward great chronicity, but an onset after thirty is extremely rare. During puberty the enlargement of the thyroid is very common, but usually disappears after from twenty-three to thirty years of age. Pregnancy also seems to be an etiological factor. It may be accompanied with nervous phenomena and the swelling sufficient at times to give considerable discomfort. As, at least fifty per cent of this author's reported cases of simple goitre appeared before or at the beginning of puberty, it is probable that all these cases of enlargement at

puberty represent a simple colloid hypertrophy, the majority of them tending toward recovery. Why the epithelium of the thyroid vesicle at this period should be so active in the secretion of colloid is not clearly determined. It represents, however, to a certain extent a physiological process, for it is known that in embryonic life the gland is composed of closely packed acini, lined with its characteristic cell, and that these acini are empty or have only a cellular content. It is some time after birth that colloid is seen, first in small amounts, but with the advancing age of the child this material becomes increased dilating the individual vesicles. The fact that often in the early stages of this form of hypertrophy the nervous symptoms are pronounced and there may also be palpitation and tremor, leads frequently to the diagnosis of exophthalmic goitre. These cases, however, never present the symptoms of exophthalmus and we should therefore use care in diagnosis. In regard to these isolated and encapsulated tumors of the thyroid which histologically resemble the simple colloid hypertrophy several interesting points arise. (Such a case is reported by Bloodgood and in my recent studies at the Bender Laboratory at least two similar cases have been observed). In the first place as to the nature of these tumors. If they represent a simple hypertrophy it is hard to understand why only a small portion of the gland takes part in the process. It seems probable that they may represent an entirely different type of lesion. In Bloodgood's case, that of a colored girl aged thirty-three, the tumor was of four years' duration, making the age of onset twenty-nine. This is rather late for the beginning of a simple hypertrophy. The tumor on removal was found to contain, in its centre, a large amount of degenerated blood and necrotic tissue. This, as the author notes, would have undoubtedly resulted in a hæmorrhagic cyst. As the walls of many cysts contain areas showing colloid hypertrophy, it seems probable that the source of origin of many of the cysts may be from this type of tumor. In simple hypertrophy it is uncommon to find cysts of large size.

The interesting question as to what always exactly constitutes a malignant tumor of the thyroid should be considered here for a moment. Bloodgood (*Progressive Medicine*, December, 1899) referring to an article by Hansel (*Beiträge zur Klinische Chirurgie*, 1899, Band 24, Heft I) who reports a case of simple colloid adenoma, and who collects all similar cases which have hereto-

fore appeared in the literature—eleven in all—in which there were metastases to bone from these primary thyroid tumors, makes the comment that “now and then it is known that benign colloid adenoma of the thyroid gives rise to metastases.” If these are metastatic tumors it seems a question whether they can be considered of a benign nature, and then the possibility of their being due to misplaced embryonic thyroid tissue has to be borne in mind. The case of adenoma with metastases reported from the Clinic of the Johns Hopkins Hospital was histologically of a somewhat different type. It occurred in a white female, aged twenty, in which the diagnosis of tuberculous glands of the neck had been made. The onset had been two years previous, when her attention had been called to a small painful tumor beneath the angle of the jaw. Following this other nodules made their appearance on the same side of the neck. Previous to operation no enlargement of the thyroid gland was noted, but during the removal of what appeared to be these tuberculous lymphatic glands the lobe of the thyroid on the same side was found to be enlarged and was removed and in its centre was a small isolated nodule. On microscopical examination the thyroid gland was found to be normal, but the small tumor of the thyroid and the isolated tumors of the neck were found to be composed principally of tissue resembling the exophthalmic variety of hypertrophy. (The patient had presented exophthalmic symptoms of a mild type). Three years after operation there was no tendency apparently toward recurrence.

Exophthalmic Hypertrophy.—While there have been many publications of recent date on this subject, notably those by Kocher, Dana, Adami, Mackenzie and Murray, nothing has been definitely established as to its pathogenesis, the main dispute being as to whether the disease is of nervous origin or whether it has its basis in an abnormal condition of the gland itself. Kocher is inclined to accept the latter view, while Dana believes “that the primary disturbance is in the cerebral centres and particularly those which control the nutrition of the thyroid and regulate the action of the circulation.”

Of late attention has been directed to the parathyroids in regard to their relation to this condition. The changes that have been found are not at all constant. MacCallum (The Pathological Anatomy of Exophthalmic Goitre, J. H. H. Bull, August, 1905), in nine recent cases of exophthalmic goitre in which he

examined the parathyroid glands found them practically normal in all. In some instances there was slight atrophy of cells and some increase in the interstitial connective tissue, but these changes he did not consider sufficiently extensive to warrant the supposition that they had any connection with the development of the disease. But whatever its pathogenesis it presents as far as the gland itself is concerned a pretty definite and constant pathological picture. Halsted's work in this regard has been one of the most important contributions to the subject. He was able to produce in animals by the removal of part of the thyroid gland a compensatory hypertrophy of the remaining portion. "This hypertrophy consists in the disappearance of the colloid material, a change in the morphology of the thyroid epithelium to one of a so-called higher type, an invagination of the wall of the acinus, which gives a larger surface for the epithelial lining, and proliferation of the epithelial cells with the formation of typical intra-acinous papillomatous groups" (Bloodgood). This is the exact picture, presented by the exophthalmic hypertrophy. It can thus be said to be a true hypertrophy. There seems to have been established also a direct relationship between the severity of the disease and its duration and the amount of the hypertrophy shown in the gland. The longer the duration of the disease the more advanced is the hypertrophy. This form like the simple hypertrophy seems to be, as a rule, a diffuse process; though Dr. Halsted has recently (The Johns Hopkins Hospital Medical Society, May 15, 1905) called attention anew to the fact that various pathological lesions of the thyroid, as cysts, adenomata, carcinomata and even "normal" thyroids often give rise to one or more of the symptoms of exophthalmic goitre. This has been the experience of other observers, notably Mikulicz and Kocher. It is true also that very frequently, especially in cysts which are accompanied by these symptoms, to find upon careful search certain areas which show definite exophthalmic hypertrophy. These facts, the establishing of the similarity in the histology of the compensatory form of hypertrophy and the exophthalmic variety and the relationship between the duration of the clinical symptoms and the advancement of the hypertrophy together with the beneficial results that are obtained in this condition by removal of a portion of the gland seems to give support to the opinions of those who hold that the disease is caused by a disordered or excessive secretion of the gland itself.

With regard to the amount of enlargement of the gland, most observers have found that while it may be so slight as to be almost imperceptible, it is a fairly constant symptom. Murray has recently in his observation of 180 cases found some enlargement of the gland in 172. In five others while there was no enlargement at the time of examination, the histories showed that at an early stage of the disease there had been. In the remaining three, there was no enlargement at the time of examination and no history of any previous enlargement could be obtained. A slight hypertrophy might easily pass unnoticed and this author is inclined to believe that if all cases were observed frequently throughout the duration of the disease some perceptible enlargement of the gland would be found in practically all cases. While the disease is more frequent in women, it is by no means rare that men are affected. The proportion as stated by different observers varies from three to one to seventeen to one. As regards the age of onset the statistics are pretty uniform. It rarely develops before puberty or after forty years of age. Most cases probably arise between the ages of twenty and thirty. The geographical distribution of this disease and likewise that of simple goitre always present points of interest. Moffitt has recently called attention to the fact that exophthalmic goitre is much more common in the counties about San Francisco Bay than in other parts of California. Nowhere in this country, however, do these diseases approach the endemic form as occurs in certain localities in Europe, notably Geneva and the Pyrennees. Of great interest in this connection are the recent observations by Brener of Vienna (Loc. Cit) and Gautier of Geneva, (*Revue Med. de la Suisse Rom.* Vol. 19, No. 5), who have noted the occurrence of the symptoms of exophthalmic goitre after treating locally with iodine cases of simple goitre. Again, Moffitt states that he has seen severe cases of iodism after small doses of potassium iodide in patients with small goitres. The similarity between the symptoms of severe iodism and exophthalmic goitre have been noted by a number of observers (P. Jaunin, *Revue Med. de la Suisse Rom.* Vol. 19, No. 5), (G. Gautier, *Ibid*), some believing that chronic iodism produces a condition which cannot be distinguished from thyroidism or exophthalmic goitre. Since the active principle of the thyroid secretion is an iodine compound (iodothylin) it seems probable that there may be a close association between the two conditions.

Treatment.—In the simple hypertrophy as the symptoms produced are mainly of a mechanical nature I believe all authorities are now agreed that surgery offers the only possible relief from the condition. As all sorts of thyroid lesions are so frequently treated locally, one should bear in mind the ill effects that sometimes arise from the application of iodine to simple goitre. We only have to glance at the statistics from some of our American and foreign clinics to ascertain how safe is the modern surgical treatment of this condition. Kocher in his report of his second thousand cases of thyroidectomy, of which 929 were of this and other benign forms, had only four deaths, a mortality of 0.4 of 1 per cent. The Mayo's in seventy-one cases had only one death and that on the eighth day from pneumonia.

In regard to the exophthalmic variety the various drugs and methods of treatment are almost innumerable. In recent years attempts have been made in many German clinics to develop a specific treatment of exophthalmic goitre. Lanz, (*Münchener Wochenschrift*, No. 4, 1903), as early as 1894 began the use of the milk of thyroidectomized goats in patients with Basedow's disease. He has recently recorded favorable results in five cases.

Burhart and Blumenthal (*Deutsche Med. Wochenschrift*, September 21, 1899), from Leyden's Clinic have used the blood serum of myxœdematous patients, injecting it into those suffering from exophthalmic goitre. Leyden reviews their results and thinks they are encouraging. Later in this clinic, was introduced the use of a precipitate from the milk of thyroidectomized goats, called "rodagin." A few cases are recorded of slight improvement after continued use of this substance. Kollaritis reports no improvement in three cases in which he employed this method.

Moebius and Schultes (*Münchener Med. Wochenschrift*, Nov. 12, 1901) have used the serum of thyroidectomized sheep. This serum is called *antithyroidin*. In 1901 Moebius (Loc. cit.) reported three cases somewhat improved by this treatment, later two other cases which were benefited. Schultes and Rosenfield have likewise each reported a case. In a recent communication Moebius (*Münch. Med. Wochenschrift*, No. 4, 1903) speaks rather guardedly of the employment of this serum. Kuh (*Medicine*, September, 1905) after treating eleven cases with the serum is unwilling to make any statement as to its curative effect. He thinks it relieved nervousness and diminished tachycardia.

Against these uncertain results are those of operative treatment. In matters pertaining to the treatment of lesions of the thyroid gland we can justly look to Kocher for advice. He insists that all cases of Basedow's disease, and *especially* those in the incipient stage, should submit to operation. Operative treatment to be of the most value should be undertaken early before the damage has been done to the nervous system.

Briefly considered the most important surgical procedures are two; *partial thyroidectomy* and *cervical sympathectomy*. The first is advocated by Kocher and is the one now practiced by the majority of surgeons throughout the world. Sympathectomy was, I believe, first advocated by Jonnesco and the best published results of this operation are his own. In seventeen cases fifty-nine per cent. were cured, twenty-nine per cent. improved, twelve per cent. unimproved, none died. The best results of partial thyroidectomy yet published are Kocher's, fifty-nine cases, seventy-six per cent. cured, seventeen per cent. improved, six and seven-tenths per cent. dead. At the last German Surgical Congress, April, 1905, Friedheim from the Clinic of Kummel reported the results of twenty cases of partial thyroidectomy after five or more years have elapsed. Fourteen were cured, two much improved, three slightly improved, and one had died. In seven of the cured cases the operation had been performed nine or more years previous. In one, fifteen and a half years. As further proof of the superiority of the operative treatment, he presents the statistics of the other large German clinics for the last years, i. e.:

	Cases.	Cured.	Improved.	Dead.
v. Mikulicz	18	10	7	1
Krönlein	24	16	6	2
Kocher	59	45	10	4
König	8	4		1

To these statistics may be added those of the Mayo's, thirty-four cases with six deaths, and Halsted's, "forty-six cases with symptoms operated upon with one death."

GEORGE E. BEILBY.

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH—CITY OF ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, DECEMBER, 1905.

Deaths.

	1901	1902	1903	1904	1905
Consumption	29	14	11	22	23
Typhoid Fever	1	0	3	1	1
Scarlet Fever	0	0	0	3	1
Measles	0	0	0	0	0
Whooping-cough	0	2	0	0	1
Diphtheria and Croup.....	5	4	2	2	1
Grippe	1	1	1	1	0
Diarrhoeal Diseases	1	1	1	1	1
Pneumonia	11	14	13	15	13
Broncho-pneumonia	4	5	3	7	5
Bright's Disease	8	14	17	17	21
Apoplexy	8	9	9	11	9
Cancer	13	9	11	11	4
Accidents and Violence.....	3	9	3	5	4
Seventy years and over.....	24	29	33	21	20
Under one year.....	10	18	10	13	9
Total deaths.....	138	139	142	151	132
Death rate	16.24	16.36	16.70	17.77	15.53
Death rate less non-residents	15.65	15.53	15.41	16.95	14.35

Deaths in Institutions.

	1901		1902		1903		1904		1905	
	Resi- dent	Non- resi- dent	Resi- dent	Non- resi- dent	Resi- dent	Non- resi- dent	Resi- dent	Non- resi- dent	Resi- dent	Non- resi- dent
Albany Hospital	9	1	7	5	10	5	6	3	8	3
Albany County Jail.....	0	0	0	0	0	0	0	0	1	0
Albany Orphan Asylum.....	3	0	0	0	0	0	0	0	0	1
Child's Hospital	0	0	1	0	1	0	0	0	1	0
County House	0	1	1	2	3	0	3	1	5	0
Home for Aged Men.....	0	0	1	0	1	0	0	0	0	0
Homeopathic Hospital	1	0	3	0	1	3	1	1	0	1
Hospital for Incurables.....	0	0	0	0	0	0	0	0	0	0
House of Shelter.....	1	0	1	0	0	0	0	0	1	0
Little Sisters of the Poor.....	0	0	1	0	0	0	1	0	2	0
Public Places	0	1	0	0	4	1	0	1	0	0
St. Margaret's Home.....	0	0	0	0	0	0	2	0	1	1
St. Peter's Hospital.....	2	2	2	0	0	2	3	1	3	4
Births at term.....										83
Still Births										8
Marriages										45

PLUMBING INSPECTIONS.

In the Bureau of Plumbing, Drainage and Ventilation there were one hundred and nine inspections made, of which sixty-one were of old buildings and forty-eight were of new buildings. There were forty-two iron drains laid, eighteen connections with street sewers, twenty-three tile drains, two urinals, seventy-nine cesspools, fifty-five wash basins, sixty-one sinks, forty-four bath tubs, thirty-two wash trays, nine hopper closets, seventy-eight tank closets, one stable wash stand and one shower bath. There were seventy-three permits issued, of which fifty were for plumbing and twenty-three for building purposes. There were eleven plans submitted, of which four were of old buildings and seven for new buildings. Eight houses tested on complaint, six with blue, red and two with peppermint. Nineteen water tests were made and thirty-three houses were examined on complaint and sixty-nine were re-examined. Twenty-four complaints were found valid and nine without cause.

BUREAU OF CONTAGIOUS DISEASE.

Cases Reported.

	1901	1902	1903	1904	1905
Typhoid Fever	6	8	6	6	2
Scarlet Fever	2	9	7	14	14
Diphtheria and Croup.....	51	25	45	12	10
Chickenpox	8	22	13	23	3
Measles	11	1	29	0	1
Whooping-cough	0	3	0	0	0
Consumption	2	1	0	2	0
Total	80	69	100	57	30

Contagious Disease in Relation to Public Schools.

	REPORTED		DEATHS	
	D.	S. F.	D.	S. F.
Public School No. 1.....	1	..	..	..
Public School No. 2.....	..	1	..	..
Public School No. 3.....	..	3	..	..
Public School No. 5.....	..	1	..	..
Public School No. 6.....	1	..	..	..
Public School No. 8.....	..	1	..	..
Public School No. 9.....	1	..	..	..
Public School No. 13.....	..	2	..	..
Public School No. 14.....	1	..	..	..
High School	1	..	..	..

Number of days quarantine for scarlet fever:

Longest.....70 Shortest.... 3 Average.... 32 21-26

Number of days quarantine for diphtheria:

Longest.... 19 Shortest.... 13 Average.... 16

Fumigations:

Houses.....	36	Rooms.....	66
Cases of diphtheria reported.....			10
Cases of diphtheria in which antitoxin was used.....			9
Cases of diphtheria in which antitoxin was not used.....			1
Deaths after use of antitoxin.....			1

Society Proceedings

MEDICAL SOCIETY OF THE COUNTY OF ALBANY

A regular meeting of the Medical Society of the County of Albany was held in the College building Wednesday evening, December 13, 1905.

The PRESIDENT called the meeting to order at 9 P. M.

There were present: Drs. Baldauf, Bedell, Beilby, Blair, Gutmann, Hacker, W. L. Hale, Holding, Lempe, Lomax, Merrill, C. H. Moore, Munson, O'Leary, Jr., Rooney, Traver, Wiltse.

Dr. BEDELL moved that the minutes be accepted as printed in the ANNALS. Seconded. Carried.

The SECRETARY read the notice of approaching consolidation of the State Society and the State Association.

Dr. LEMPE read a paper on acute osteomyelitis which will appear in the ANNALS.

Dr. BEILBY said that this case of Dr. Lempe's impressed one with the importance of early diagnosis. It seemed to him that this case was one of a primary slight localized area of infection, with, perhaps, a severe secondary infection by another organism.

Of the recent articles on this subject that of Nichols is the best. His treatment may almost be termed revolutionary. He advises early operation to liberate pus, first carefully opening the periosteum by incision before attacking the medulla. Much care is taken to preserve the periosteum intact to aid in forming new bone after the separation of the sequestrum. An early secondary operation is also advised; not waiting for a formation of a firm involucrum, but removing the sequestrum early and by careful coaptation of the periosteum depending on these efforts for the formation of a new shaft. This greatly shortened the period of discharging sinuses.

Dr. TRAVER spoke of a case of difficulty in diagnosis in which the patient, a boy, fell out of bed injuring his shoulder. At least that was the history of the boy. An examination under ether was made which revealed nothing. The arm was held fixed and motion was painful. There

were tenderness and swelling in the neighborhood of the shoulder. A tentative diagnosis of rheumatism was made. About three weeks later the shoulder was explored and a focus of osteomyelitis was found in the head of the humerus, which had broken into the shoulder joint and led to its disorganization.

Dr. WILTSE asked whether in the cases seen by Dr. Lempe or Dr. Traver any point was found which might furnish entrance for bacteria.

Dr. LEMPE replied in the negative, saying that at first the case was supposed to be one of neuromimesis.

Dr. TRAVER said that the boy said that he had injured his shoulder, but that there was no evidence of traumatism.

Dr. BLAIR read a paper on the medical essays of Oliver Wendell Holmes.

The PRESIDENT thanked Dr. Blair in the name of the Society for his excellent and interesting address, and hoped that there might be others of the same kind read oftener in the future.

Dr. ROONEY expressed his appreciation of the paper, and spoke of the treatment Semmelweiss received in being hounded from his positions, ostracised from the profession and dying in an insane asylum as a result of his persecution. Holmes was by far the more fortunate, as he lived to see his work credited and recognized.

On motion, the Society adjourned. JAMES F. ROONEY, *Secretary*.

[*Minutes received for publication December 29, 1905.*]

Medical News

Edited by Arthur J. Bedell, M. D.

THE ALBANY GUILD FOR THE CARE OF THE SICK.—STATISTICS FOR DECEMBER, 1905.—Number of new cases, 88, classified as follows: district cases reported by health physicians, 6; charity cases reported by other physicians, 39; patients of limited means, 39; old cases still under treatment, 43; total number of patients under nursing care during the month, 131. Classification of diseases (new cases), medical, 20; surgical, 7; gynæcological, 3; obstetrical work of the Guild, 28 mothers and 26 infants under professional care; dental, 3; throat and nose, 1; contagious diseases in medical list, 3; removed to hospitals, 2; deaths, 4.

Special Obstetrical Department: Number of obstetricians in charge of cases, 2; attending obstetricians, 1; medical students in attendance, 4; Guild nurses, 4; cases, 3; number of visits by head obstetricians, 4; by attending obstetricians, 6; by the medical students, 10; the Guild nurses, (all departments), number of visits with nursing treatment, 870; for the professional supervision of convalescents, 220; total number of visits, 1090; six graduate nurses and 3 assistant nurses were on duty. Cases were reported to the Guild by one of the health physicians and by 30 other physicians and by three dentists.

LINCOLN HOSPITAL IN NEW YORK CITY.—The managers of the Lincoln Hospital, East 141st Street and Southern Boulevard, New York City, announce that Dr. Louis Faugeres Bishop, is giving a series of Clinical Lectures in the Medical Wards. Special reference to disorders of the heart and circulation and the commoner diseases of general practice on Wednesday afternoons, commencing December 27, 1905, at two o'clock. The course is free to the medical profession.

CORONER'S PHYSICIANS OF ALBANY COUNTY.—The Albany County Board of Supervisors on December 20, 1905, re-elected Dr. Alvah H. Traver of Albany, Dr. James F. Rooney of Albany, Dr. Charles L. Witbeck of Cohoes, and Dr. William E. Silcocks of Green Island, coroner's physicians.

NEW YORK STATE ASSOCIATION FOR PROMOTING THE INTEREST OF THE BLIND.—The first public meeting of this Association will be held in New York, March 29th, at which Mr. Clemens (Mark Twain) will preside and Hon. Joseph H. Choate and Helen Keeler will speak. The Association was formed to extend the efficiency of services already given the blind.

ALBANY HOSPITAL.—The Board of Governors of the Albany Hospital are contemplating many building improvements. A separate building with larger and more suitable accommodations for the exclusive use of nurses will probably be first considered. The present nurses' home will be used for ordinary hospital purposes while the space used in ambulance pavilion it is hoped to employ for ambulance patients and also lecture rooms for physicians.

The pavilion for contagious diseases which the city has presented is completed and equipped ready for occupancy. The building stands north of the main plant and is the same general style of architecture, two stories high. Each floor is divided into four distinct compartments in order to ensure complete isolation. Each of these compartments has its own kitchen, serving room and lavatory, wash stands of course not being used. The laundry, storeroom, servants' quarters and sterilizing rooms are in the basement. About three-fourths of the second floor remains unpartitioned and will probably be used for the nurses' dormitory. Dr. Arthur Sautter will be in charge. Small-pox patients will not be admitted, a separate building being used for that purpose.

A successor for Superintendent Godley, who recently resigned, has not yet been appointed.

UNION UNIVERSITY.—At the regular meeting of the Board of Trustees of the Union University held at the Albany Medical College, January 23rd, the endowment fund committee made a very encouraging report of its efforts to raise \$100,000, to secure Andrew Carnegie's gift of \$100,000.

A canvass of the graduates of the Union University is to be made and it is hoped that the desired amount will be secured by next June.

CIVIL SERVICE EXAMINATIONS FOR STATE AND COUNTY SERVICE.—The State Civil Service Commission announces examinations to be held on February 17, 1906, for the following positions:

Architectural Draughtsman, \$15 to \$25 a week; Architectural Designer, \$25 to \$40 a week; Assistant Civil Engineer; Leveler; Civil Engineering Draughtsman; Assistant Electrical Engineer; Cooking Instructor; Foreman of Laborers, Department of Public Buildings, Albany, \$1,500; Superintendent for Placing Dependent Children, Ononadaga County, \$900; Telephone Operator, New York County Offices, \$720; Trained Nurse, State Institutions, \$420 to \$600 and maintenance.

The last day for filing applications for these examinations is February 12th.

The Commission also announces an examination to be held about March 1st, for Pathologist at the Craig Colony for Epileptics at \$2,500 and maintenance.

Application forms and detailed information may be obtained by addressing the Chief Examiner of the Commission at Albany.

PERSONALS.—Dr. ALVA E. ABRAMS (A. M. C., 1880), was elected President of the Hartford City Medical Society, Hartford, Conn., at its recent meeting.

—Dr. FRANK HINKLEY (A. M. C., 1898), has been appointed house physician at Manhattan State Hospital, Central Islip, N. Y.

—Dr. EUGENE E. HINMAN (A. M. C., 1899), has given up his position with the Equitable Life Assurance Co., and will open his offices at No. 202 Lark Street, Albany, N. Y. He will do general practice paying special attention to nose and throat cases.

—Dr. GERALD GRIFFIN (A. M. C., 1901), recently purchased the residence No. 140 Washington Avenue, Albany, N. Y., and will open his offices there May 1st.

—Dr. GEO. H. VAN GASBEEK (A. M. C., 1893), was recently appointed attending surgeon at Benedictine Hospital, Kingston, N. Y.

—Dr. FRANK KEATOR (A. M. C., 1903), has been appointed attending surgeon at Benedictine Hospital, Kingston, N. Y., and has opened offices at No. 249 Broadway, Kingston, N. Y.

DEATHS.—Dr. NORMAN B. SHERMAN (A. M. C., 1861), died suddenly at the age of 63 years, December 22, 1905, at his home in Marshall, Mich.

—Dr. SELWYN A. RUSSELL (A. M. C., 1877), died at his home, Mill Street, Poughkeepsie, N. Y., January 10, 1906. He had been physician in several of the State hospitals. He practiced for a time in Albany, N. Y., and married the only daughter of Hamilton Harris. Two children survive.

In Memoriam

ABISHA SHUMWAY HUDSON, M. D.

Dr. Abisha Shumway Hudson died at Mount Vernon, Ohio, October 9, 1905, of the infirmities of old age, the immediate cause of death being oedema of the glottis.

Dr. Hudson was born in Massachusetts May 1, 1819. After receiving a common school education he entered the Albany Medical College, and was graduated in January, 1846. His twin brother, Dr. Abijah T. Hudson, graduated in the following class, and was also an energetic and prominent physician. His death occurred in Stockton, Cal., February 2, 1902, and a memorial tribute was published in the ALBANY MEDICAL ANNALS of April of that year. The brothers were associated in practice, and Dr. Abijah had also a most creditable Civil War record. Shortly after his graduation Dr. Abisha Hudson located at Sterling, Ill., where he practiced his profession with marked success for a period of twenty years. He became very prominent in medical circles while residing at Sterling, and his fame extended over the United States. He was one of the organizers of the Keokuk Medical College of Keokuk, Iowa, and was a member of its faculty. He was also a member of the faculty of Rush Medical College of Chicago.

During the Civil War he served as surgeon of the Thirty-fourth Illinois Infantry.

In 1871 Dr. Hudson moved to Stockton, Cal., and later to Oakland, in the same State. Owing to the failure of his health, he retired from the active practice of his profession.

Dr. Hudson married Miss Rose Elliot of Mount Vernon, Ohio, on May 2, 1853, and to them one child was born, Lyl E. Hudson, who, like his father, became a physician, and who died while in active practice January 6, 1879.

In 1899 Dr. and Mrs. Hudson went to Mount Vernon to live and made this city their home.

While engaged in the active practice of his profession, Dr. Hudson possessed one of the brightest medical minds in the country, and was known by reputation to the medical profession throughout the country. He was not only prominently connected with the Rush Medical College and the Keokuk Medical College, but was a liberal contributor to current medical literature and scientific publications.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

Manual of Chemistry. A Guide to Lectures and Laboratory work for Beginners in Chemistry. A Text-book especially adapted for Students of Medicine, Pharmacy and Dentistry. By WILLIAM SIMON, Ph.D., M. D., Professor of Chemistry in the College of Physicians and Surgeons of Baltimore, and in the Baltimore College of Dental Surgery, etc. New (8th) Edition, thoroughly revised to conform with the eighth decennial revision of the U. S. Pharmacopœia. In one octavo volume of 643 pages, with 66 engravings, 8 colored plates representing 64 important chemical reactions, and one colored spectra plate. Cloth, \$3.00 net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

After thorough revision this well-known manual reappears in its eighth edition. Although the general arrangement of the subject matter remains intact, the various chapters have been altered, enlarged and in some instances entirely rewritten in order that the text might be brought into conformity to modern views. More detailed consideration is given to dental metallurgy and the additions and changes to the recent Pharmacopœia are incorporated. As a whole the book presents the general subject of chemistry in a manner which, in regard to the amount of space devoted to the various branches, is extremely well-balanced.

H. C. J.

The Treatment of Fractures; with Notes on a Few Common Dislocations.

By CHARLES L. SCUDDER, M. D., Surgeon to the Massachusetts General Hospital. Fifth Edition, Revised and Enlarged. Octavo of 563 pages, with 739 original illustrations. Philadelphia and London: W. B. Saunders & Company, 1905. Polished buckram, \$5.00 net; half morocco, \$6.00 net.

The appearance of this volume in its fifth edition, the first edition having been published in 1900, is the best evidence of its general popularity. The author originally started out with the idea that he would present as accurately and completely as possible the symptoms and the best methods of treatment of fractures, comparatively little attention being paid to the etiological or pathological features. To this original principle he has adhered in each new edition, and in the present volume he presents all that is best in the diagnosis and treatment of practically all forms of fractures that may occur in the human body.

The volume is subdivided into 21 chapters, the first fifteen of which deal with the individual fractures. In each variety of fracture the important symptoms are briefly enumerated, and following this is a more or less detailed discussion of the most approved method of treatment. After-treatment, complications and prognosis also receive due consideration.

In chapter 16 the more important anatomical facts connected with the

epiphysis are presented and the relative frequency of separation of the different epiphyses discussed.

Gunshot fracture of bone is the subject of chapter 17, wherein the important clinical features and the treatment are outlined.

Chapter 18, written by Dr. Codman, is an excellent presentation of the important facts concerning the Röntgen ray and its relation to fractures, and anyone who may have occasion to interpret radiographs should read this chapter.

In chapter 19 the methods of use of plaster of paris in the treatment of fractures are outlined and numerous points in the technique of its employment emphasized.

Chapter 20 deals with a subject which is progressively attracting more attention, namely, the ambulatory treatment of fractures. The author does not believe that this method accomplishes all that is claimed for it, but rather prefers the early use of plaster of paris in fractures of the leg, and plaster of paris or some hip splint in fractures of the thigh, thus allowing the patient to be out of bed comparatively soon after the occurrence of the fracture.

The volume closes with a chapter upon the symptoms and treatment of a few of the more important dislocations. In all there are 563 pages of subject matter, and the illustrations, of which there are 739, are the best in any volume upon the subject of fractures in the English language. In fact, one of the strongest features of the work are the illustrations, which are so accurate and so well executed as often to make the subject matter almost superfluous. To the student, the practitioner of medicine and the surgeon the volume will prove invaluable, and if the principles regarding treatment are adhered to there will be far fewer bad results. The publishers are also entitled to a great deal of credit for a splendid example of the highest type of medical book making. A. W. E.

Atlas and Text-Book of Topographic and Applied Anatomy. By PROF. DR. O. SCHULTZE, of Würzburg. Edited, with additions, by GEORGE D. STEWART, M. D., Professor of Anatomy and Clinical Surgery, University and Bellevue Hospital Medical College, New York. Large quarto volume of 187 pages, containing 25 figures on 22 colored lithographic plates, and 89 text-cuts, 60 in colors. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, \$5.50 net.

It is naturally impossible to present anything especially new in the way of gross anatomy, and about the only opportunity for the demonstration of originality is in the method of consideration and presentation of the subject. In this volume the author has endeavored to present to the student or medical man the most important practical features of gross anatomy. Detail has necessarily been omitted and the subject matter condensed as much as possible. The entire subject is considered in six chapters: the first dealing with the Head, the second with the Upper Extremity, the third with the Thorax, the fourth with the Abdomen, the fifth with the Pelvis, and the sixth with the Lower Extremity. At the end

of each chapter is appended a list of so-called "review questions," the object of which is to call especial attention to the most salient features of the chapter presented. The volume contains 189 pages of subject matter, 22 lithographic plates and 89 text cuts, 60 of which are in colors. The cuts, especially the colored ones, cannot be too highly commended, and demonstrate the highest type of the illustrator's art. The subject matter is very clear and concise and the more important medical and surgical features connected with the parts described are briefly referred to, so that the volume has much the value of a medical or surgical anatomy. The volume cannot be too highly commended to both the medical student and the medical practitioner, for in no other work of its size are all the essentials of regional anatomy so clearly set forth.

A. W. E.

The Diagnostics of Internal Medicine. A Clinical Treatise upon the Recognized Principles of Medical Diagnosis, Prepared for the Use of Students and Practitioners of Medicine. By GLENTWORTH REEVE BUTLER, Sc. D., M. D. With Five Colored Plates and Two Hundred and Eighty-six Illustrations and Charts in the Text. Second Revised Edition. New York and London: D. Appleton & Co. 1905.

The exhaustion of the first edition of this work, which has been reprinted several times, shows that it has proved itself of value to the student and practitioner. The arrangement of the subject-matter remains the same as in the first edition, but it has been carefully revised and a new section has been written by Dr. William A. White on Diseases of the Mind, and one on Medical X-Ray Diagnosis has been contributed by Dr. Paul M. Pilcher.

The book is divided into two parts, which are complementary to each other, as the first part deals with the evidences of disease and the second with direct and differential diagnosis. The first part forms by itself a treatise on undirect diagnosis consisting of 714 pages, in which there are considered the various symptoms and their diagnostic significance, practical points in the anatomy and physiology of important organs and descriptions of methods of physical examination and laboratory investigation. There are in this portion of the book many valuable points in regard to history taking and the exact observation of signs of disease. In considering general symptoms the causes are given and also the diseases in which they occur, so that the second part of the book can be referred to for other symptoms of the disease suggested. The different regions of the body are taken up, and in connection with them special methods of examination are fully described. The section on the examination of the circulatory system contains a good analysis of the character and time relations of normal and abnormal heart sounds, and includes descriptions of the use of the sphygmomanometer and sphygmograph. Methods of examination of the nervous system, of the blood, sputum, stomach contents, feces, urine and of fluids obtained by puncture, are all fully described, as well as kryascopy and the use of the Rontgen light in medical diagnosis.

In part two diseases are taken up and the symptoms and diagnosis or differential diagnosis of each are given, and in many of them the causes, complications, sequelae and prognosis are included. References are made to the descriptions of methods of examination and investigation in part one. In the section on diseases of the mind Dr. White briefly describes the general symptomatology of the psychoses and then the different diseases. He gives a modern classification, but says that it is to be considered as tentative and as affording clinical and descriptive advantages rather than as in any sense final.

The book can be highly recommended as a useful reference work. It has been carefully written and revised, and in it a great amount of information is given in a systematic way. Nothing seems to be omitted which can aid in the careful consideration of the history of a case, in the physical examination of the patient or in making the laboratory tests required for exact diagnosis. The illustrations are numerous, and many of them are photographic reproductions upon which the outlines of internal organs are drawn or physical signs are marked. Many of the diagrams are excellent and helpful to the reader, such as those illustrating the cardiac cycle and the types of movement, and the colored plates showing the motor and sensory pathways.

R. G. C.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. By Professor Dr. CARL VON NOORDEN. Part VII. Diabetes Mellitus. Its Pathological Chemistry and Treatment. New York: E. B. Treat & Co. 1905.

This, the seventh volume in the series dealing with disorders of metabolism and nutrition, treats in von Noorden's clear way, of certain aspects of diabetes. The subject matter of the book was originally delivered as a course of lectures in the University and Bellevue Medical College, and it is evident from the avoidance of disputed points and doubtful theories that the writer realized that part of his audience was composed of medical students. The first part of the book is taken up with a consideration of the pathological chemistry of glycosuria. Both the glycosuria of diabetes and that due to other causes is carefully considered, and the matter is made so clear that it should be possible for any one reasonably familiar with the subject to comprehend it, and avoid the mistake, so often made, of calling every patient with sugar in his urine a diabetic. The second part of the book takes up the general course and prognosis of the disease, the more important complications, and the treatment. The whole volume is, in a sense, an epitome of the author's larger monograph on the subject, or at any rate of certain portions of it of importance to the practitioner. The chapters on treatment are of special value, as they give clearly what is practically an epitome of the whole subject illuminated by the large experience of the author. The question of treatment by drugs, at health resorts, and by dietetic measures is carefully considered, and the latter part of the subject is made doubly useful by diet lists. In no disease is adherence to

certain dietary standards more necessary, and in but few books is the subject discussed so satisfactorily. We can highly commend this little work to those interested in this common disease, and especially to those who desire detailed directions as to the dietetic treatment. G. B.

A Treatise on Diagnostic Methods of Examination. By Prof. Dr. H. SAHLI, of Bern. Edited, with additions, by FRANCIS P. KINNICUTT, M. D., Professor of Clinical Medicine, Columbia University, N. Y.; and NATH'L BOWDITCH POTTER, M. D., Visiting Physician to the City Hospital and to the French Hospital; and Consulting Physician to the Manhattan State Hospital, N. Y. Philadelphia and London: W. B. Saunders & Company, 1905. Octavo of 1,008 pages, profusely illustrated. Cloth, \$6.50 net; Half Morocco, \$7.50 net.

The character of Professor Sahli's book is indicated by the well chosen title, "Diagnostic Methods," by which it is shown to be a treatise upon symptoms, and not a manual of differential diagnosis. As a work of reference for clearing the obscure points in doubtful diagnosis it could not be used. It is, more exactly, a commentary upon methods of observation and the philosophy of morbid appearances, and is thus a storehouse of semeiological culture. Only incidentally and occasionally are symptoms grouped. For the student the book is suggestive and for the practitioner it affords opportunity for review and recasting of his ideas after consideration of the work of a master. And yet, though nothing but the highest eulogium can be expressed upon Professor Sahli's diagnosis, it must be acknowledged that the manipulations he describes cannot be carried on outside a highly organized clinic. Many chemical procedures, for example, are complicated, difficult and require expert knowledge. And these are not all conclusive. Although more than sixty changes in subject matter have been made in the fourth German edition, there has been no enlargement, because, as the author confesses, some of the older methods have not stood the test of time. There is much to discourage a practitioner, even if he be ambitious to move beyond a daily routine, in the discovery that the smooth surface of intellectual precision conceals a structure corroded by doubt. The reader is justified in the regret that the independence of the author was not carried to the exclusion of questionable or experimental procedures. Inquiry into the viscosity and the chemical examination of the blood are not only preliminary, but involve the use of apparatus which is only available in a large clinic and by trained observers. This comment may also be made upon certain complicated analyses of the urine and of the contents of the stomach and intestines. Professor Sahli deprecates, in a way, medical journal literature, and believes that text books should not be compiled from them. But in exploiting tentative investigations, in successive editions, his book becomes in part evanescent, and partakes of the character, though not of the form, of a periodical.

In the sections given to physical diagnosis, this criticism is not valid. These descriptions and the author's philosophy of morbid appearances should be carefully considered by every medical man. The chapters on

diseases of the chest are particularly clear. The nervous system is approached from a new standpoint, and the work upon sensory disturbances is entirely novel and suggestive.

On the whole Professor Sahli's book bears the impress of originality. It reveals a distinct individuality. In freedom from convention and independence of thought it is a striking volume and one a careful physician cannot afford to neglect. It has not been injured in the translation, and the sense of the author has been preserved without the adoption of awkward German idioms.

The Principles of Bacteriology. A Practical Manual for Students and Physicians. By A. C. ABBOTT, M. D., Professor of Hygiene and Bacteriology, and Director of the Laboratory of Hygiene in the University of Pennsylvania. New (7th) Edition, enlarged and thoroughly revised. In one 12mo volume of 689 pages with 100 illustrations, of which 24 are colored. Cloth \$2.75 net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

The first edition of Dr. Abbott's book appeared in 1891, and at once supplied a serious need of students and beginners in the then comparatively recent field of bacteriology. Since that time by revisions and new editions this valuable manual has been kept apace with the marked advances made in this branch of medical science, and at the same time the interests of the student have been safeguarded by omitting unproved theories and introducing into the revisions only those discoveries and methods which have added real knowledge to the subject.

Within the past two years since the appearance of the sixth edition, much has been accomplished in certain fields, and Dr. Abbott has recognized these by several important additions and revisions to the present edition. First, the adoption of the Migula classification of bacteria. At first hand this classification may seem more cumbersome than the older and simpler classification, but when it is once mastered, it is a great help to the student. More detailed information with regard to the immunity induced by different pathogenic organisms has been given. There have also been added brief descriptions of several organisms that had heretofore not been described, notably *Bacterium Welchii* and *Bacillus Sporogenes*, while several organisms have been dropped because of their slight importance.

The book is valuable not only to the beginner in bacteriology, but is a reference book to busy practitioners who have been unable to keep up with advances in this field. Directions for performing all of the more common laboratory methods of bacteriological research are given clearly and fully.

The morphology, staining reactions, pathology and clinical phenomena of the more important pathological bacteria are described, special attention being paid to the tubercle bacillus. Infection and immunity are discussed in a separate chapter, with a résumé of the facts and most widely accepted theories on this complicated subject. General directions for study of

water and milk are given along with useful data and technique in regard to methods of sterilization and disinfection.

The few excellent illustrations do not do full justice to the subject matter, and colored plates illustrating gross cultural and pathological appearances would add a distinct value to the book.

H. E. R.

A Text-Book of Clinical Diagnosis by Laboratory Methods. For the use of Students, Practitioners, and Laboratory Workers. By L. NAPOLEON BOSTON, A. M., M. D., Associate in Medicine and Director of the Clinical Laboratories, Medico-Chirurgical College, Philadelphia; formerly Bacteriologist at the Philadelphia Hospital and at the Ayer Clinical Laboratory of the Pennsylvania Hospital. *Second Edition.* Revised and enlarged, with 330 illustrations. Philadelphia and London: W. B. Saunders & Co., 1905.

The first edition of this manual of clinical laboratory methods has already been reviewed in the *ANNALS*. The fact that a second edition has been called for within eight months shows the popularity of the work. Besides slight changes and additions throughout the text, seventeen pages of new matter have been added at the end. Some of the new subjects treated are Ficker's Reaction, the Leishman-Donovan Bodies, Ravold's Test for Albumin, etc. The book is well printed on fine paper and fully illustrated.

A. T. I.

A Manual of Surgical Diagnosis. For Students and Practitioners. By ALBERT A. BERG, M. D., Adjunct Attending Surgeon to Mt. Sinai Hospital, New York. In one 12mo volume of 543 pages with 215 engravings and 21 full page plates. Cloth, \$3.25 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

A good modern work on surgical diagnosis, written in a concise and yet not marginal manner, has for some time been needed by the busy practitioner of medicine.

Frequently we have read books which have treated the subject so briefly and superficially as to leave us as much doubt as before their perusal.

Dr. Berg's book of about 500 pages is very plain and practical. It is well supplied with excellent illustrative plates, but is not a mere picture book, as there is an abundance of wholesome reading matter.

The shadowgraphs, by copy, have less distinct outlines than was probably the case with the originals. In his preface the author lays great stress upon the early diagnosis of surgical diseases, and throughout the work can be noted his attempt toward the recognition of many diseases at their incipency. Part one takes up the general considerations on diagnosis, as the taking of the clinical history, the examination of the patient, etc., and while this part may be of more use to the student than the practitioner, still the latter will no doubt be benefitted by a careful reading of the forceful sentences.

Under this general heading the author includes the clinical import of

general symptoms in diseases of surgical nature. Parts II, III, IV, V and VI deal with injuries and diseases of the head and neck, thorax, abdomen, genito-urinary system and extremities respectively, and the various chapter subdivisions give clearly and definitely the more rational methods and symptoms of surgical diagnosis.

The writer evidently believes in the laboratory as a most efficient aid in such diagnosis, and strongly advises using the advantages it affords. Altogether the work impresses one as having been written by a man who thoroughly knows his subject and that the practical part has the more important place.

E. F. S.

Operative Surgery. For Students and Practitioners. By JOHN J. McGRATH, M. D., Professor of Surgical Anatomy and Operative Surgery at the New York Post-Graduate Medical School, Surgeon to the Harlem, Post-Graduate, and Columbus Hospitals, New York. Second Edition. Thoroughly Revised. With 265 illustrations, including many Full-Page Plates in Colors and Half-tone. 628 Octavo Pages, Extra Cloth, \$4.50, net; Half Morocco, \$5.50, net. Sold only by subscription. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia, Pa.

The second edition of this work has been thoroughly revised and brought up to date. It combines in a very practical manner the subjects of surgical anatomy and operative surgery, and embraces the general plan followed by the author in the author's courses in operative surgery at the New York Post-Graduate Medical School. Purely technical considerations have been eliminated as far as possible, so that while the volume comprises only 600 pages, the most important surgical procedures are dealt with comprehensively. The illustrations are largely diagrammatic and are thus satisfactory for teaching purposes.

The section upon the surgery of the head and face is very complete, and includes descriptions of the most recently approved methods of exploratory craniotomy, Cushing's method of Gasserian ganglion extirpation and a detailed consideration of the plastic operations for congenital deformities of the face.

Much has been written recently upon abdominal operations, and this work treats in detail the surgery of the stomach and intestinal tract as well as operations upon the pancreas, spleen, liver, gall-bladder and ducts.

There is rather a brief consideration of the surgery of the prostate gland, with a description and illustrations of Young's method of perineal prostatectomy.

A feature which commends the book is that the author has dwelt largely upon those fields of operative surgery in which there have been important developments in recent years, and has only devoted a brief space in considering, for instance, such well known procedures as amputation and resection of the extremities.

G. E. B.

NEW YORK STATE MEDICAL LIBRARY.

Edited by Miss Ada Bunnell, B. L. S.

Hours of opening. The library is open for readers and borrowers each week day from 8 A. M. to 10 P. M., including Saturdays and holidays, except during July and August, when it closes at 6 P. M.

Loans. Books can be lent to any registered physician, but will be delivered only on personal application or on a written order, by which full responsibility for books so delivered is assumed.

Loans outside Albany. Books will be lent by the medical library to any registered physician outside Albany, provided:

1. That such precautions be taken in packing as to guard against any probability of injury in transportation.
2. That the medical library shall not pay postage or express either way.

The library is collecting articles on minute subjects and will be glad to receive gifts of reprints of articles in magazines from authors or publishers.

NEW BOOKS ADDED TO THE LIBRARY.

Abrams, Albert. (The) Blues (Splanchnic Neurasthenia) causes and cure. 2d ed., enl. N. Y., 1905.

Bergmann, Ernst von, Bruns, Paul von and Mikulicz, J. System of Practical Surgery. 5 v. N. Y., 1904.

Binnie, J. F. Manual of Operative Surgery. 2d ed. Phil., 1905.

Hare, H. A. The National Standard Dispensatory. Containing the Natural History, Chemistry, Pharmacy, Actions, and Uses of Medicines. In Accordance with the Eighth Decennial Revision of the United States Pharmacopœia, 1905. Phil., 1905. "This dispensatory is designed to succeed the National dispensatory of Stillé and Maisch."—Author's pref.

Kiliani, O. G. T. Surgical Diagnosis; a Manual for Practitioners of Medicine and Surgery. N. Y., 1905.

Krehl, Ludolf. (The) Principles of Clinical Pathology; a Text-book for Students and Physicians. Authorized translation from the 3d German ed., by Albion Walter Hewlett, with an introduction by William Osler. Phil., 1905.

Mumford, J. G. Surgical Aspects of Digestive Disorders. N. Y., 1905.

Reinert, Emil. Die Zählung der Blutkörperchen und der Bedeutung für Diagnose und Therapie. Lpz. 1891.

United States pharmacopœial convention, 8th, Washington, 1900. The Pharmacopœia of the United States of America. 8th Decennial Revision. By authority of the United States Pharmacopœial Convention held at Washington, A. D. 1900. Revised by the Committee of Revision and published by the Board of Trustees. Official from September 1st, 1905. Phil., 1905.

SOCIETY TRANSACTIONS AND PERIODICALS.

American Gastro-Enterological Association. Transactions. 1904.

American Laryngological, Rhinological and Otological Society. Transactions. 1905.

Association of American Physicians. Transactions. 1905.

New Hampshire Medical Society. Transactions. 1905.

Journal of Anatomy and Physiology. London, v. 1-8, 9 pt. 1-2, 10-15, 29. Index to v. 1-20.

SURGERY

Edited by Albert Vander Veer, M. D., and Arthur W. Elting, M. D.

The Permanent Results after the Operative Treatment of Basedow's Disease. (Ueber Dauererfolge nach operativer Behandlung des Morbus Basedowii.)

FRIEDHEIM. *Archiv für klinische Chirurgie, Band 77, Heft 4.*

In 1901 Schulz reported twenty cases of Basedow's disease operated upon by Kümmell. Since a positive cure of the disease by operation is even yet doubted by many internists and since many hold the view that the benefit of surgical treatment is very much overshadowed by the danger of the operation, the writer felt it desirable to make a report upon the present condition of the twenty cases previously reported. In this way he believes that he can demonstrate that Basedow's disease can be permanently cured by an operation and that with the proper surgical technic there is no greater danger to the patient than is associated with medical treatment.

Of these twenty cases it has been impossible to locate three, and one other patient died four years after operation from tuberculosis. Of the twenty cases the writer regards fourteen as completely cured and the time which has elapsed between the operation and the last examination has varied from four to fifteen and one-half years. Five cases he regards as improved, while death followed the operation in one case. The exact cause of death could not be determined positively, although the writer is inclined to think it was due to the fact that too little secreting gland tissue was left.

Rehn was the first surgeon in Germany to advocate operation in Basedow's disease, and in 1884 reported cures effected in this way. Inasmuch as at that time the goitre was regarded as only a symptom of Basedow's disease his work did not attract much attention. When, however, in 1886, Moebius advanced the belief that Basedow's disease was due to a diseased hypersecretion of the thyroid, Rehn's views first began to be accepted. The results of surgical treatment since that time have demonstrated the correctness of the views of both of these investigators.

It is always desirable to determine, if possible, that portion of the gland which is most diseased and to remove this. Only a portion of the gland should be removed, and yet enough should be removed in order that the organism may care for the poison produced by the remainder. Kocher's view is that one might better operate several times, removing small portions at each time, than to take out too much at one operation. The distressing symptoms which sometimes follow immediately after an operation of this kind are usually regarded as due to an absorption from more or less of an hæmatoma in the wound. For this reason an especial effort should be made to have the smallest possible wound surface, and also to secure the most complete hæmostasis.

In none of the fourteen cases which were cured was there at the last examination any evidence of an enlarged thyroid; while all of the five cases which were improved showed more or less enlargement of that

portion of the gland which remained. In one case the right lobe was removed at the first operation, with relief of the symptoms. These symptoms, however, recurred a year later. At this time the left lobe was removed and a permanent cure obtained.

From a study of the statistics from the clinics of Mikulicz, Krönlein, Kocher and Koenig, it is shown that the mortality was less than eight per cent. Treated medically, statistics show that there are very few permanent cures, while the mortality is generally estimated at about twelve per cent. This would appear to demonstrate the relatively slight danger attendant upon operative treatment.

What are the Chances for an Early Diagnosis in Carcinoma of the Intestine? (Welche Aussichten bestehen für eine Frühdiagnose der Intestinal-carcinome?)

I. BOAS. *Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie, Band 15, Heft 1 and 2.*

The writer recognizes the fact that the internist should make every effort to turn his cases of intestinal carcinoma over to the surgeon at as early a date as possible. In carcinoma of the esophagus and cardiac orifice of the stomach, however, it makes little difference whether or not an early diagnosis is made, for there is practically no radical surgical treatment. The carcinomata which are available for surgical treatment are those of the stomach, colon, rectum and small intestine.

Considering the early diagnosis of intestinal carcinoma one must sharply distinguish two stages: First, the stage of latency; secondly, the beginning of evident symptoms. Of course, it is impossible to diagnosticate carcinoma of the intestine during the period of latency. Carcinoma of the rectum is the variety which should, theoretically, be earliest diagnosticated. Of eighty-four cases of carcinoma of the rectum seen by the writer in the last ten years, only twenty of them were regarded as operative cases, and in only sixteen of these was a radical operation attempted. That is, in about eighty per cent. of all diagnosticated carcinomata of the rectum the radical operation is out of the question. The writer attributes the failure to diagnosticate these cases early to two facts: first, neglect on the part of the great majority of physicians to make a rectal examination; and, secondly, that these carcinomata frequently give practically no symptoms until they are well advanced. Of the eighty-four cases, in only nine had the symptoms lasted less than three months, and of these nine, four were practically inoperable, while two were on the border line, and in only three was a radical operation strongly indicated. On the other hand, in some of the cases in which symptoms had lasted for a considerable period of time, the prognosis of operation was most favorable.

Of thirty cases of carcinoma of the colon seen by the writer in the last ten years, in only six was a radical operation attempted, the operations done upon the rest of this number being purely palliative.

In regard to carcinoma of the stomach, the writer expresses the belief that the operability of a case bears no direct relationship to the duration

of the disease. Of 243 cases of carcinoma of the stomach seen by him in the last ten years, sixty, or practically one-quarter, were seen during the first three months after the beginning of symptoms. A considerable number of them presented themselves within a few weeks after symptoms first developed. Only three of these sixty cases were of a sufficiently favorable character to allow resection; that is, five per cent; while of the 127 cases in which the symptoms had lasted from six months to a year or more, eight cases were regarded as suitable for resection; that is, six and three-tenths per cent. It, therefore, follows that the early diagnosis in the great majority of instances of carcinoma of the stomach is no guarantee for a radical removal of the tumor. The important factors are the malignancy and the tendency to extension. An early diagnosis does not necessarily offer a good prognosis for operation, nor, on the contrary, does a late diagnosis always exclude the possibility of a radical procedure. In the writer's experience, those cases in which no tumor was palpable have proved no more favorable for operation than those in which it could be felt. He regards the diagnosis of carcinoma of the stomach as more or less uncertain, especially as based upon examination of the stomach contents. He believes, however, that in fully ninety per cent. of cases of carcinoma of the stomach a relatively early diagnosis can be made. Gastroscopy has not proven of any value. Exploratory laparotomy would appear to be the most valuable method for early diagnosis.

Concerning Cysts of the Mesentery. (Ueber Mesenterialzysten.)

HEINRICH ADLER. *Münchener medizinische Wochenschrift*, No. 46, November, 1905.

In spite of the marked advances in surgery the clinical and pathological picture of this interesting condition is by no means well understood. The writer reports the case of a woman of 48 years who complained of pain in the lower portion of the abdomen, lassitude and depression. She was extremely fat. There had also been some irregularity of menstruation. She presented a somewhat movable fluctuating tumor the size of a man's head which appeared to extend downward into the pelvis and which could be felt in the right vaginal fornix. The tumor was regarded as an ovarian cyst. At the operation it was found to be a multilocular cyst of the mesentery which was situated between the layers of the mesentery, and which was somewhat adherent to the intestine. The other abdominal organs were found to be normal. The tumor was excised and the cystic cavities were found to contain a clear, watery fluid. Certain portions of the tumor presented solid elements which microscopically were found to be composed of connective tissue. The inner wall of the cyst was composed of several layers of cylindrical epithelium. The patient made an uneventful recovery.

In most of the cysts of the mesentery reported it has been impossible to demonstrate any epithelium upon the inner surface, although Küster has reported a case which, like the one of the author, presented an inner lining composed of several layers of epithelium. The cyst fluid was of

high specific gravity, rich in albumen, and contained numerous epithelial cells and leucocytes.

Comparatively few cases of cyst of the mesentery have been reported, and according to Augagneur only about a third of the tumors of the mesentery are cystic. The following varieties of tumors have been observed in the mesentery: lipoma, fibroma, sarcoma, carcinoma, chylangioma, echinococcus cysts, dermoid cysts and chylus cysts. Some extremely large tumors of the mesentery have been reported, weighing as much as sixty or seventy pounds, but it is quite probable that these were really retro-peritoneal tumors, for a sharp distinction has not apparently been made between mesenteric tumors and retro-peritoneal tumors. Most retro-peritoneal cysts originate from the kidneys, pancreas or female genitalia. Occasionally dermoid cysts are observed in this region, as are echinococcus cysts.

There are three mesenteries in which tumors may originate—that of the small intestine, that of the transverse colon, and that of the sigmoid flexure. In the literature, however, all of the cysts reported appear to have been located in the mesentery of the small intestine. Hahn has divided cysts of the mesentery into the blood cysts, chylus cysts, serous cysts and echinococcus cysts. Pean states that tumors of the mesentery usually give rise to but few symptoms. Other observers, however, have noted more or less marked disturbance of the digestion, together with pain, which may be the first symptom of the disease or may only present after it has attained some size. This pain is usually referred to the region of the umbilicus. Constipation is of rather common occurrence in these cases. The general health is decidedly impaired. Pallor, anemia, emaciation, and in women disturbance of menstruation, are usually accompanying symptoms. There is never any fever. The tumor usually develops rather rapidly and ordinarily is elastic and fluctuating. A positive diagnosis can practically never be made before operation. The most that can be done is to suspect the possibility of the existence of a mesenteric cyst.

As to treatment, all are agreed that mechanical measures should be employed as early as possible. In some instances puncture has been practiced, but this is hardly a justifiable procedure. In every instance where it can be done the cyst should be excised, and where this is impossible it should be sutured to the parietal peritoneum and drained. In these cases drainage frequently persists for a long time and there is often more or less difficulty in securing a complete healing of the wound. The question as to whether an excision or drainage is to be performed can only be determined at the time of operation.

Diagnosis of Tumors of the Adrenal. (Zür Diagnose der Nebennierengeschwülste.)

JAMES ISRAEL. *Deutsche medizinische Wochenschrift*, No. 44, November, 1905.

That the diagnosis of this class of tumors is extremely difficult is demonstrated by the fact that many surgeons believe that it is impossible to differentiate them clinically from tumors of the kidney. On the basis

of the writer's personal experience of 100 malignant tumors of the kidney which he has operated upon, and nine primary tumors of the adrenal, he has attempted to establish certain diagnostic points. He states that one may be able to determine with a fair degree of probability the presence of a tumor of the adrenal, but a positive diagnosis is possible only in rare instances. The tumors of the adrenal cannot be clinically distinguished from pararenal tumors originating from the remains of the Wolffian body or misplaced adrenal. The difficulty of the differential diagnosis between tumors of the adrenal and tumors of the kidney is due, first, to the similarity in their topographical relationship; and, secondly, to the fact that in both varieties of tumors urinary changes, especially hematuria, are common.

The nine cases of tumor of the adrenal observed by the writer may be divided into five groups:

The first group contains those cases in which there is no palpable tumor nor any symptom which directs attention to the adrenal or the kidney. It is only the metastases which call attention to the presence of a latent malignant primary focus. Under such conditions a diagnosis is naturally impossible.

In the second group he would include those cases in which there is no palpable tumor, but in which there are symptoms which point to the adrenal or the kidney, namely: hematuria and paroxysms of pain or parasthesia in the region of the lumbar plexus. Of course, the possibility of stone in the kidney must always be excluded. If there is sufficient reason for the assumption of a malignant disease either of the kidney or the adrenal, the paroxysms of pain or the parasthesia in the region of the lumbar plexus, with febrile disturbance, unassociated with the presence of any assignable cause for the fever or any demonstrable tumor, would speak strongly in favor of the presence of tumor of the adrenal. Pain is an especially important factor and occurs very much earlier in tumors of the adrenal than in tumors of the kidney, because of the fact that the fibrous capsule of the kidney prevents the involvement of the surrounding nerves early in the course of the disease. The adrenal presents no such capsule and the tumor tends to extend to the surrounding tissue at a much earlier period. In fifty-seven per cent. of the cases of tumor of the adrenal observed by the writer there was more or less febrile disturbance, while of the 100 cases of tumor of the kidney there were only one or two in which it occurred.

In the third group the writer would include those cases in which a tumor can be felt and which tumor is due to the malignant disease of the adrenal, the uninvolved kidney, however, not being demonstrable.

In the fourth group he would include those cases in which diagnosis is the easiest, namely: when the tumor of the adrenal can be distinctly felt and distinguished from the normal kidney which is situated just to the outer side of it.

In the fifth group he would classify those cases in which there is a tumor formed by the fusion of the adrenal and the kidney without its being possible to differentiate the component parts. The differentiation of this condition from one of primary neoplasm of the kidney is ex-

tremely difficult. One apparently characteristic fact, however, is that the tumor originating from the adrenal tends to approach more nearly the median line—in the region from the seventh to the ninth costal cartilages; while the primary tumor of the kidney appears first in the region from the ninth to the eleventh. Tumor of the adrenal at the time of its presentation beneath the margin of the ribs appears broader than does that of tumor of the kidney, and the lower contour of the tumor of the adrenal is much less rounded than is that of the kidney.

In conclusion, the writer states that the results after operative treatment of this condition are extremely unsatisfactory. This is mainly due to the fact that the tumor of the adrenal cannot be diagnosed when it is early enough to be operable.

Importance of Trauma in the Etiology of Carcinoma and Sarcoma. (Die Bedeutung des Traumas für die Entstehung der Carcinome und Sarcoma.)

WILHELM RÖPKE. *Archiv für klinische Chirurgie, Band 78, Heft 2.*

The writer presents an extended study of the relationship of trauma to the cases of carcinoma and sarcoma observed in the surgical clinic in Jena from 1889 to 1904. The study includes 800 cases of carcinoma and 189 cases of sarcoma. He gives a brief resumé of the various theories advanced to explain the origin of new growths and calls attention to the fact that the majority of observers have believed that there was a relationship between trauma and the production of neoplasm. Under the heading of trauma he includes all forms of chronic irritation such as are frequently produced by chronic inflammations.

The first group of carcinomata considered are those involving the head. Of this group the greatest number were the carcinomata of the lip, of which there were seventy-four cases. The trauma resulting from the use of a pipe was apparently an important etiological factor in a very considerable number of these cases, especially the short pipe with a curved, downward-hanging stem. The irritation of the mucous membrane of the mouth or tongue by bad teeth seemed to determine the location of carcinomata in which trauma was an important etiological factor.

In carcinomata of the skin of the face and head he found the most frequent etiological factors to be seborrhea, warts, and sebaceous cysts, the disturbance of the latter two in the process of shaving being in several instances apparently an important factor.

In carcinomata of the gastro-intestinal tract he believes that trauma has something to do with the determination of the frequency of the involvement of the pylorus, although in only seven and three-tenths per cent. of his cases of carcinoma of the stomach could a direct relationship to an ulcer of the stomach be demonstrated. In carcinomata of the intestinal tract chronic constipation, hemorrhoids and chronic catarrh of the intestine appeared to be rather frequent antecedent disturbances. Ulcerative processes, with the resulting scars, and fistulae in the region

of the anus are also not infrequently noted as the forerunners of carcinomata. He calls especial attention to the very much greater frequency of carcinomata of the rectum in the male than in the female. He calls especial attention to the extremely frequent relationship of gallstones to carcinoma of the gall bladder. He compares numerous statistics about the frequency of this combined lesion and finds that in from eighty-five to ninety-five per cent. of the cases of carcinoma of the gall bladder reported, gallstones were regarded as an extremely important etiological factor. Carcinoma of the gall bladder is decidedly more common in women than in men, which is in keeping with the relative frequency of occurrence of gallstones in the two sexes.

In carcinomata of the breast he finds that in a small percentage of cases the development of the tumor seems to bear a direct relationship to some antecedent trauma, which is not infrequently in the nature of a chronic mastitis. He presents a large number of statistics collected from the literature, in which eleven and three-tenths per cent. of the cases of carcinoma of the breast were regarded as bearing a direct relationship to a single trauma.

The relationship of the traumatism resulting from the chronic irritation of ulcers and sinuses upon the extremities to the development of carcinoma is especially emphasized.

Of the 800 carcinomata studied, in only nineteen cases could a single trauma be assumed as a probably important cause of the development of the carcinoma; while of 189 sarcomata, in nineteen cases a single trauma was believed to have played an important rôle in the development of the new growth. These statistics would seem to indicate that there is a very much more intimate relationship between either a single trauma or a chronic irritation and the development of a sarcoma, than between these conditions and the development of a carcinoma. Others have advanced the view that the chronic irritative processes are of greater importance in the development of carcinomata, while a single trauma is of very much greater importance in the development of sarcomata. These facts seem to speak in favor of Virchow's view regarding the origin of new growths, which is that the cause is to be found in some local predisposition. Of course, something further than the trauma must be assumed in the production of a new growth, which something does not appear as yet to have been satisfactorily explained. The writer believes in the possibility of an inheritance of a predisposition to new growths, although this is probably of less importance than generally assumed.

In conclusion, he presents cases illustrating the importance of trauma in determining the location of metastasis from carcinomata already existing in the organism. He believes that a contusion of a part favors deposition of cancer cells, which may be at times present in the circulating blood, and that the disturbance of the circulation as a result of the contusion so lowers the resistance of the part that the tumor cells, instead of being destroyed, gain the upper hand and produce a new focus. In this he believes that there is a marked similarity to the occurrence of osteomyelitis and tuberculosis after trauma.

LARYNGOLOGY, RHINOLOGY AND OTOTOLOGY

Edited by Clement F. Theisen, M. D.

*The Frontal Sinus.*C. G. COAKLEY. *Laryngoscope*, August, 1905.

The writer discusses the following points in his paper:

(a) What symptoms in diseases of the sinuses demand radical surgical intervention?

(b) What have been the comparative results of conservative and radical methods of treatment?

The following symptoms demand external opening of the frontal sinus: Edema and redness of the upper eyelid, accompanied by throbbing pain over the sinus, provided they show a tendency to increase in severity for more than twenty-four hours after resection of the anterior third of the middle turbinate, and a thorough contraction of the mucous membrane of the middle meatus by means of local applications of adrenalin and cocaine; marked prolapse of the orbital wall of the sinus; displacement of the globe of the eye outwards and downwards with diplopia; the development of a fistula at the upper angle of the orbit, as evidenced by redness, greater swelling, and fluctuation in this region; intense supra-orbital and frontal pain, which cannot be relieved by establishing adequate drainage through the naso-frontal duct, with a tendency to an elevation in temperature, and symptoms of beginning meningeal involvement.

In a series of fifty-eight cases of acute frontal sinusitis occurring in the author's private practice between January 1, 1903, and January 1, 1905, fifty-four made complete recoveries as a result of proper intra-nasal treatment. One patient, seen for the first time forty hours after the onset of the attack, in which the left ethmoid and sphenoid were involved, died twenty-three hours later, from an acute meningitis with symptoms of great intra-cranial pressure, as evidenced by a pulse of forty. The anterior third of the middle turbinate had been excised, and judging from the discharge drainage was good. No autopsy was obtained.

Chronic Frontal Sinusitis.—Chronic frontal sinusitis as a distinct entity, unassociated with suppuration in some of the neighboring sinuses, is a condition the author has never met with. There has always been an ethmoiditis present, and the antrum in a large percentage of the cases was either diseased, or the receptacle for pus flowing down from the frontal and ethmoid sinuses. The following symptoms demand radical operation: Chronic suppurative frontal sinusitis, accompanied by multiple polyp formation in the nose. A radical operation is indicated in severe acute exacerbations of the chronic condition, whenever any of the symptoms enumerated under acute frontal sinusitis develop. If intra-nasal treatment of a frontal sinusitis does not suffice to prevent the discharge from passing into the antrum, then in order to cure the antrum, the frontal must be operated upon radically. Very large frontal sinuses with multiple septa, and particularly those with recesses extending backwards over the roof of the orbit, can be but imperfectly irrigated. Such cases require the radical operation.

Conservative Treatment.—The author has records of seventy-nine cases so treated. Eleven, or fourteen per cent., may be considered cured, as they could be observed for at least two years after having been discharged as cured. Of the remaining sixty-eight cases, twenty-seven, or thirty-five per cent., have been lost sight of. Of the remaining forty-one, twenty-four, or thirty per cent., have returned with recurrences one or more times a year. Twenty-two of these cases have polypi. The remaining seventeen cases consented to a radical operation after having been under treatment for a long time, and all have been cured.

The author then discusses the different radical operations, the Ogston Luc, the Kuhnt, and finally his own operation by the open method, *i. e.*, to operate in the manner of Kuhnt, but to pack the frontal sinus and naso-frontal duct so that granulations would spring up, and first occlude the narrowest part of the cavity, the bottom of the naso-frontal duct. Later, just as in a mastoid wound, it would be merely a matter of time for the upper part to fill with granulations and become obliterated.

Of one hundred four patients operated upon by this method, two are dead, one has fistula, and one hundred and one are living and cured of the frontal sinusitis. Seven are under occasional treatment. Three of the seven have sinuses in their antra, six of the seven have occasional discharge from the sphenoid.

Some Facts in Regard to the Origin of Laryngeal Papillomata. (Beiträge Zur Entstehung der Kehlkopf-papillome.)

L. RETHI. *Wiener medicinische Wochenschrift, November 11, 1905.*

Very little is known concerning the origin of papillomata of the larynx. Some cases of benign neoplasms are undoubtedly congenital and they are sometimes seen during the first few years of life. Some authorities believe that heredity is of importance in the etiology of papillomata, and the writer does not exclude this factor, although he states, that while papillomata sometimes develop simultaneously in the larynges of brothers or sisters, or parents and children, such occurrences may be accidental and merely coincidences. The question of heredity as an etiological factor cannot, however, be positively excluded. In support of this view he reports the cases of two children, aged respectively eight and ten years, who both had multiple laryngeal papillomata. The mother had been operated on for the same laryngeal condition fourteen years before. He reports two other cases occurring in a young boy and his sister, in whom there had been no recurrence after operation. There were no other cases in this family.

The acute infectious diseases such as measles and influenza sometimes favor the development of papilloma, because laryngitis is such a common complication of acute infectious diseases, and an etiological relationship exists between hyperæmia, inflammation, and the development of papillomata. On the other hand, as Schrötter has brought out, inflammatory processes in the larynx sometimes subside spontaneously after the removal of a papilloma, and in such cases the laryngitis was probably not

the cause but the result of the neoplasm. There is no doubt, however, that there must be a certain predisposition. Even the most severe inflammatory conditions could not be sufficient to bring about the development of a papilloma if this predisposition is absent. Where it is present, an irritation of the laryngeal mucosa very quickly causes its development.

A case is reported in which two papillomas were removed from the larynx of a young man aged twenty years. The voice was completely restored after the operation, but two years later, after getting very wet, he developed another laryngitis, and on examination both vocal cords were found reddened, with superficial erosions on their free edges as well as along the edge of the epiglottis. When the patient was again seen two weeks later, papillomatous swellings had commenced at these eroded areas, and in three weeks more had increased in size. They were removed, and he remained free from a recurrence for a year, when he developed a laryngitis with erosions on the right vocal cord, and again a papilloma developed at one of these points.

Gerhardt has noticed that papillomata easily develop at points accidentally injured during the operation for the removal of a papilloma, and Gottstein has reported two cases, in both of which papillomas developed after cauterizing the seat of a removed growth.

Concerning the Cause and Treatment of Dangerous Hemorrhage after Removing the Tonsils. (Ueber Ursache und Behandlung bedrohlicher Blutungen nach Abtragung der Gaumenmandeln.)

ED. HEUKING. *Fränkel's Archiv*, Bd. XVII, 1905.

A great many cases of severe, and a few *fatal* cases of hemorrhage after tonsillotomy are mentioned in literature. Recently two of Mosetig-Moorhof's assistants, Damianos and Hermann, have collected 150 cases of this kind from the literature of the past sixty years. The author has observed six cases of alarming hemorrhage after tonsillotomy,—none of them, however, having a fatal termination. He discovered a source of hemorrhage which has not been mentioned up to the present time. One of the theories that has always been held to account for such hemorrhages was that individuals in whom they occurred after operations were hemophilics. In the cases collected by Damianos and Hermann, however, there were only five in which this etiological factor was present. Of the eight fatal cases on record, hæmophilia was only a contributing cause in two. So that hæmophilia cannot be regarded as playing an important rôle in these cases. The second cause of severe hemorrhage is the wounding of larger or smaller arterial branches. In this connection, the author speaks of the danger mentioned in so many text-books, of wounding the internal carotid artery during tonsillotomy. As a matter of fact, there is only one authentic case on record in which this artery was wounded during this operation.

It is impossible to wound the internal carotid with the ordinary tonsil-tome, and in order to injure it with a scalpel the operator must go far back of the faucial pillars or be very careless. It has been claimed by

Merkel and Demme that anomalous positions of the external maxillary, the lingual, or ascending pharyngeal arteries, might cause hemorrhage during tonsillotomy or tonsillectomy. The author has been unable to find absolutely authentic records of injuries of either of these vessels. In some cases it has been stated that the hemorrhage takes place from the amputated surface of the tonsil. The anatomical investigations of Zuckerkandl explain the possibilities of such hemorrhage. The tonsillar artery, which takes its origin mainly from the ascending palatine, and at times from the ascending pharyngeal, and external maxillary, extends to the dense fibrous membrane which borders the tonsil externally. Only after it goes through this firm membrane does it divide into small branches which supply the parenchyma of the tonsil. There is, therefore, little danger of wounding the artery before it divides into the smaller branches, unless a very radical operation is performed, the tonsil being pulled forward strongly, and the cutting instrument being carried too far back of the faucial pillars. The majority of the cases of persistent hemorrhage following tonsillotomy cannot be explained on the ground of cutting some of these small arterial branches.

Out of 150 cases collected by Damianos and Hermann, there were only a few in which a spurting vessel in the tonsillar stump was seen. The author has found in the cases observed by him, that such persistent hemorrhage may not only arise from the parenchyma of the amputated tonsil, but from the neighboring tissue, particularly the faucial pillars. The author describes the different forms of hypertrophied tonsils, the so-called submerged tonsils, those that are adherent to the anterior or posterior pillar or both, and those that are almost spherical and project well out from the pillars. This last form, especially if there are no adhesions, is the most favorable for operation. There is very little danger of hemorrhage if only the part that projects beyond the faucial pillars is removed. When attempts are made to remove partially submerged tonsils, that are frequently almost covered by the pillars, with the ordinary tonsillotomy, it frequently happens that parts of the pillars brought into the ring of the instrument, and injured when the tonsil is removed. The author has found that in just such cases severe and sometimes alarming hemorrhage may result.

He reports six cases, in all of which the hemorrhage came on some time after the tonsils were removed. In every case, after freeing the mouth of blood clots and vomited particles of food, a gaping wound was found high up on the posterior pillar of the fauces. The hemorrhage always came from this point, and was controlled in each case after prolonged pressure with the right index finger, wrapped with sterile gauze.

It may be of interest to give a brief abstract of one of his cases: An enormously hypertrophied left tonsil, in a man aged sixty years, was removed under cocaine anæsthesia by one of the author's colleagues. The hemorrhage during and shortly after the operation was trifling, and was easily stopped with cold gargles. Three hours after the operation the physicians were summoned to the patient's home and found him in a condition of complete collapse and almost pulseless. Shortly before he had vomited enormous quantities of blood. As in the author's other

cases, the bleeding point was found high up on the posterior fold of membrane, which had been wounded during the operation. The patient made a good recovery, but died ten months after of an extensive lymphosarcoma involving the glands on both sides of the neck.

In conclusion the author highly commends compression of the bleeding point *immediately*, with the finger wrapped in gauze, rather than wasting time by the application of astringent solutions and powders.

Concerning Primary Cancer of the Nasal Cavities. (Ueber den primären Krebs der Nasenhöhle.)

DONOGANY and LEUART. *Fränkel's Archiv, Bd. 15, Hft. 3.*

Primary cancer of the nasal cavities belongs to the fairly rare forms of nasal diseases. There are only fifty-four well-authenticated cases in the literature of the subject. To this number the authors have added seven cases observed by themselves in Prof. Navratil's clinic in Budapest.

Wriniwarter's general carcinoma statistics comprise 548 cases, including thirty cases of cancer on the external surface of the nose, but not a single case in the nasal cavities.

In Bonde's 154 carcinoma cases the cancer was present forty times on the external surface and twice in the nostrils. Gurlt found only four cases of cancer in the nostrils in 10,000 cases collected by him. There were, however, out of this number of cases, fourteen cases of sarcoma (which is not considered in the author's paper) in the nasal cavities.

Herzfeld found in his clinic in a material of 28,000 cases only one case of primary cancer in the nostrils. Finder found in the 40,000 cases treated in Fränkel's nose and throat clinic five cases in the nostrils.

The author's conclusions are based only on such cases in which the diagnosis was made histologically. The cases in which a microscopical diagnosis was not made were not included, because it could not be definitely settled whether the growth in the nostrils was a carcinoma or sarcoma. Seven cases of primary carcinoma of the nasal cavities are reported by the writers, in each of which a positive diagnosis was made.

In the first case, that of a man aged fifty-four years, the right nostril was filled by a tumor mass, which after the autopsy was found to be a true carcinoma.

In the second case, that of a woman aged fifty-two years, the left nostril was the seat of a tumor mass. A piece removed for microscopical examination proved the diagnosis of carcinoma. A radical operation was performed. This consisted in an incision extending through the lip and along the lateral nasal wall to the inner angle of the eye. Then the antrum of Highmore was opened through the canine fossa and was found filled with a tumor mass. The nostril was then opened into through the antrum, and the whole lateral wall, including the inferior and middle turbinæ bones, together with the tumor mass, were removed. The sphenoid and ethmoid sinuses were also opened.

There was no recurrence for about seven months, but then the tumor again entirely filled the nose and the patient died with symptoms of meningitis.

In the third case, that of a man fifty years of age, a radical operation was also performed for a carcinoma in the right nostril, but after several recurrences this patient also died with cerebral symptoms.

In the fourth case, a man aged fifty-four years, the carcinoma evidently sprang from the middle turbinate of the right nostril. Operative interference was refused.

The fifth case was that of a woman aged thirty-eight years, who had suffered from nasal obstruction and hemorrhages for four years. On examination of the nose, the right nostril was found entirely filled with a tumor mass which projected out externally. The region of the right antrum was much swollen. On account of the poor general condition of the patient an operation was not advised. The diagnosis of carcinoma was made by the excision of a small piece of the growth.

In the sixth case, that of a woman aged forty years, the right nostril was filled with an irregular reddish-gray tumor mass. Severe hemorrhage followed the slightest touching of the tumor. A piece removed for microscopical examination showed that the growth was carcinoma. The patient refused radical operation.

The right nostril was completely filled with a tumor in the seventh case, that of a man aged forty-three years. A radical operation (Bruns' osteo-plastic resection of the nose) was performed. At the operation it was found that the tumor originated in the antrum of Highmore. The patient made a good recovery.

In conclusion the authors state that ordinary treatment of carcinoma of the nose is practically hopeless. Operative procedures offer the only hope. In the favorable cases, where the growth has not extended into the accessory cavities, involved the orbit or frontal sinus, an endo-nasal operation may be attempted. The radical operation, however, is indicated in such cases and offers some chance of success.

PEDIATRICS

Edited by Henry L. K. Shaw, M. D.

Some Conditions Which May Be Mistaken for Meningitis.

BAUMANN. *The British Journal of Children's Diseases*, February, 1905.

A number of diseases of childhood tend to assume a type simulating meningitis, and the difficulties of accurate differential diagnosis are often great and sometimes insurmountable. The nervous system of the child is very unstable and is readily disarranged by comparatively trivial ailments.

The author classifies meningitis in children into three forms:

(1) Tubercular meningitis, which is usually secondary to a tubercular focus in some other part of the body. It runs its course in about three weeks and the symptoms vary with the stage of the disease. One or two characteristic symptoms may be absent and the disease run an atypical course which obscures the diagnosis.

(2) Posterior-basic meningitis, which is the result of the invasion of the cerebro-spinal membranes by the diplococcus intracellularis meningitidis and may occur sporadically or epidemically.

Vomiting or convulsions and opisthotonos with rigidity of the limbs are the characteristic feature of the disease. The spasms are more apt to be clonic in tubercular meningitis. The pulse is generally regular. The child lies with its eyes staring in marked contrast with the tightly clenched lids of photophobia in tubercular meningitis.

(3) Suppurative meningitis is generally a secondary infection in which the convexity of the brain is first attacked. The onset is less definite and the symptoms are frequently masked by those of the condition which it complicates. Head retraction is slight and may be entirely absent, and ocular changes are uncommon. The disease runs its course in a few days, terminating in death. The histories of nine cases in the Great Ormond Street Hospital for Sick Children, which were wrongly diagnosed as meningitis are given, in which the cerebral symptoms simulated that disease. The following were the correct diagnoses of these cases: typhoid fever, lobar pneumonia, broncho-pneumonia, influenza, mastoid disease, middle ear disease, sarcoma of brain, renal disease and gastrointestinal disturbance. A case was admitted to the hospital for meningitis in which all the symptoms abruptly subsided after the passage of a large round worm.

Abscess of the brain, acute polioencephalitis, trichinosis, retropharyngeal abscess, etc., have all been mistaken for meningitis. Cases occur having every symptom of cerebral irritation in which a diagnosis of meningitis is given. Then, for some unknown reason the temperature falls and the child recovers completely. These cases often remain unexplained and are catalogued in hospital records as "pseudo-meningitis." The cases reported by the author were only eventually correctly diagnosed after a longer or shorter period under constant and trained observation in the hospital. The difficulties are much greater to the general practitioner who sees his cases only at intervals and often has to rely upon the statement of unskilled observers.

The points emphasized in the history are the existence of some acute infectious disease, such as influenza, among the household, the presence of tuberculosis in one of the parents, and the history of severe headaches, which accompanies and exists during somnolence. The author attaches little importance to Kernig's sign, tache cerebrale, head retraction, inequality of pupils and the examination of the blood. The more important symptoms are the condition of the pulse, examination of the eyes and ears, while the lumbar punctures should be carried out as a matter of routine. Cloudiness or opacity of the fluid signifies an inflammatory process, except in tuberculous meningitis, where it is clear. The bacteriological examination is of the utmost importance.

There is no single symptom which will enable us to differentiate a case of meningitis from another case with cerebral symptoms. A careful consideration of the symptoms and history with the information obtained by the physical examination should be made in each case. Meningitis should definitely be assumed only when the symptoms are not alone initial, but last till death.

A Further Contribution on the Bacteriology and Contagiousness of Dysentery in Children. (Neue Beiträge zur Bakteriologie und Epidemiologie der Ruhr in Kindesalter.)

JEHLE. *Jahrbuch für Kinderheilkunde, October, 1905.*

The author studied thirty-six cases of dysentery in which the Shiga-Kruse bacillus was found in eight and the Flexner type in twenty-eight. Of the Shiga type five primary cases were admitted in the Anna Kinder Spital in Vienna.

Three secondary cases occurred in the hospital, one of which was in the author himself. Four of the children died and the prostration was extreme. The Shiga bacilli were found regularly in the stools. The blood serum of the patients agglutinated the Shiga and Kruse bacilli. The Flexner bacilli were not agglutinated. No other secondary infections occurred, although these children came from large and closely housed families. The cases in which the Flexner type were found had several interesting features. The chief etiological factor was improper food. The initial symptoms were severe with fever, vomiting, diarrhoea and collapse. After one or two days there would be a rapid improvement and most of the cases made a complete recovery. The Flexner type of dysentery bacillus was found in all the cases early in the disease.

The agglutination tests with original Flexner bacilli were positive in all the cases in a dilution of 1 to 40 and 1 to 80. These cases were extremely contagious. The secondary cases would occur from three to five days after exposure.

The author examined a large number of summer diarrhoea stools and never found any dysentery bacilli. He never obtained a positive serum reaction with Flexner or Shiga bacilli in these cases of ordinary enteritis.

As a result of his research the author makes the following conclusions:

Dysentery is not an uncommon disease in children and sporadic cases are of frequent occurrence.

The sporadic cases are often caused by infected food. Breast fed babies after taking cow's milk for the first time may be infected.

The infecting agent may be one of the several types of dysentery bacilli.

The Flexner type is more contagious than the Shiga-Kruse type, but the later is more fatal. In the stools of the patients are found only one type of dysentery bacillus and the blood serum will only agglutinate with that type.

In dyspepsia, cholera infantum, summer diarrhoea, no dysentery bacilli were detected and the serum reactions were negative.

The Use of Antidiphtheritic Serum in the Treatment of Stomatitis and Vulvo-Vaginitis in Children. (L'Emploi du serum antidiphtherique dans le traitement des stomatites et des Vulvo-vaginites de L'Enfance.)

GIORELLI AND BRINDA. *Archives de Médecine des Enfants, December, 1905.*

The authors consider only the severe forms of aphthous and ulcerative stomatitis and do not include the benign cases of simple catarrhal stomatitis or those due to the specific syphilitic virus. These cases are notably

hard to treat and in weak scrofulous children may terminate fatally. The etiology of ulcerative stomatitis is obscure and no one organism has been found responsible. The treatment generally employed has been the use of chlorate of potash both locally and internally. Nitrate of silver, permanganate of potash, formate and chloride of calcium have all been recommended.

A child was brought to the dispensary three years ago with a very severe case of ulcerative stomatitis. In spite of applications of nitrate of silver permanganate of potash, perchloride of iron, and bichloride used faithfully for several weeks no marked improvement was noted, so the child was admitted to the hospital. A dose of antitoxin was administered and there was a rapid recovery. This led to its use in similar cases and the histories of twenty-five cases are given in full. These were all cases of aphthous and ulcerative stomatitis and there were no cases of noma. Inoculations from these cases were made on agar, gelatine and bullion. Staphylococci, streptococci and the pneumococcus of Frierlander were the most frequent varieties of organisms. The Klebs-Loeffler bacillus was not in any of the cases. All the cases made a rapid recovery. The dose given was 1000 units, repeated every second or third day if necessary. No bad results followed in any of the cases.

The authors decided to try the effect of the serum on cases of vulvovaginitis. This is not uncommon and resists the ordinary methods of treatment. In discussing the etiology of this disorder the author insists that most of the cases are not due to the gonococcus. The discharge is analogous to that occurring in purulent otitis and from mucous membranes in children who are weak and run down. Six cases of non-specific discharge are reported with prompt recovery without the use of injections or local treatment.

The longest case was only under treatment for two weeks and in that time received five injections of 1000 units. Four cases of specific discharge in which the gonococcus was detected were treated with serum. Three cases made a complete and rapid recovery and no improvement was noted in one case. In none of these cases was the Klebs-Loeffler bacillus present.

The benefits is due in the opinion of the author to the stimulation of the active reparative processes of the organism.

In one case not included in the report the authors injected ten cubic centimeters of a physiologic serum without any amelioration in the discharge.

Investigations on the Serum Sickness. (Neuere Beobachtungen über die Serumkrankheit.)

PIRQUET. *Jahrbuch für Kinderheilkunde, October, 1905.*

The serum sickness is not a process limited to the skin, but one in which almost all the organs are affected. The symptoms appear from eight to twelve days after the injection and are shown by fever, eruption and pain in the joints and muscles. The eruption presents many variations.

A few of the symptoms are discussed in detail. The enlargement of the glands appear in the vicinity of the injected area before the eruption occurs and in many cases this may be the only symptom. In severe cases conjointly with the eruption occurs a general oedema. To detect this it is often necessary to make frequent weighings. It may reach ten per cent. of the body weight. The albuminuria which is frequently noted is not the result of injecting a foreign albumin into the system, but is the product of an inflammatory irritation of the kidneys. A leucopenia is often present which reaches its maximum about the eighteenth day. In one case the leucocytes fell from 14,640 on the sixth day to 880 on the eighteenth day. Hamburger has proven that with the outset of the sickness is coincident with the presence of precipitins in the blood. The incubation period after a first injection is from eight to twelve days, but it is much shorter after a reinjection of a serum from the same species. If the reinjection takes place within three months the serum sickness will occur almost immediately. The appearance of antibodies in the blood marks the appearance of the sickness. If antibodies are already present the symptoms will make an earlier appearance.

The frequency and intensity of the symptoms depends upon the kind and amount of serum used. The antitoxin does not cause the sickness but the introduction of albumins foreign to the organism are responsible. No preceptitins will be formed from serum introduced through the alimentary tract. The antitoxin cannot be absorbed or taken into the system through the alimentary tract.

MATERIA MEDICA AND THERAPEUTICS

Edited by Spencer L. Dawes, M. D.

Clinical Investigations and Experiences with the Roemer Pneumococcus Serum in Croupous Pneumonia. (Klinische Beobachtungen und Erfahrungen mit dem Pneumococccen-serum Roemer bei der croupösen Pneumonie.)

KNAUTH. *Deutsche medicinische Wochenschrift*, 1905, 31, p. 452.

The author considers the early work of Fraenkel, the Klemperer brothers, and others on the subject of pneumococcus immunity. Römer's preparation is a polyvalent one, and consists of a mixture of sera of various species of animals which have been treated with a number of cultures of pneumococci isolated from infections in man. This serum has been used for three years in the eye clinic in Wurzburg in the treatment of pure pneumococcus eye infections where the author states it has given excellent results in ulceration of the cornea. Seven cases of croupous pneumonia in the Royal Garrison Hospital at Wurzburg were treated with one or more injections of twenty cubic centimetres of the serum. The author states that there were no unfavorable or harmful results from the use of the serum in these cases. The pulse, temperature,

respiration and general condition were all favorably influenced. A rapid decided fall in the temperature was observed in but one case when the serum was given early in the course of the disease. In the other the temperature generally fell gradually. Convalescence pursued a normal course.

Concerning Alypin, a New Local Anesthetic. (Ueber Alypin, ein neues lokales Anestheticum.)

SEELIGSOHN. *Deutsche medicinische Wochenschrift, No. 35, 1905.*

The author has been using this new local anesthetic in his clinic and polyclinic for diseases of the eye, since November, 1904, and gives the results of his studies. His experiments were made as follows: a one and two per cent. solution of alypin was dropped into a large number of normal eyes. Immediately afterwards, patients complained of a burning sensation, which disappeared after one or two minutes; there was also some hyperaemia, but there was no anesthesia produced in any of the cases. As was discovered later, the first solutions used were not chemically pure, and were of acid reaction. In March, 1905, the author obtained a new neutral four per cent. solution, and obtained altogether different results. The solution was first used in normal eyes, then compared with cocaine, thirdly its effectiveness in inflammatory conditions was tried, and finally it was used in operations. After dropping a four per cent. alypin solution into a normal eye, some patients complained of the burning sensation and others did not. Anesthesia was produced in one or two minutes. After three or four minutes a probe could not be felt. In the majority of the cases a slight hyperaemia was produced which disappeared in a few minutes. Anesthesia lasted from ten to fifteen minutes in some cases. In none of the cases did a dilatation of the pupil result nor were there disturbances or commotion. When compared with cocaine, a four per cent. alypin solution was dropped into one eye and a four per cent. cocaine solution into the other. It was found that complete anesthesia did not occur quite as soon as from cocaine, but lasted one or two minutes longer. Alypin was then used in cases of keratitis eczematosa of children, as well as in cases of acute conjunctivitis, iritis, and iridocyclitis, and it was found that in these cases too, anesthesia resulted. The author then employed this solution for the removal of deep seated foreign bodies and found it very effective. It was just as effective in other operations like tenotomies. Ten minutes before the operation a few drops were dropped into the eye, five minutes before, a few drops more, and directly before, a little more. Patients did not complain of any pain. The solution was also used in operations for preparatory iridectomy, strabismus operations, in one case of antiglaucomatous iridectomy, etc. There was no more pain experienced in any of the cases than when cocaine is employed, nor were there any cases of intoxication, or increased tension such as cocaine produces.

ALBANY MEDICAL ANNALS

Addresses

DELIVERED AT THE CENTENNIAL ANNIVERSARY
OF THE MEDICAL SOCIETY OF THE
STATE OF NEW YORK,

Held at Albany, January 30 and 31, and February 1, 1906.

I. THE PLEA OF THE PATIENT.

By GROVER CLEVELAND.

I have heard a story, invented in a spirit of frivolous wag-gery, to the effect that once upon a time the devil, having undertaken an excursion throughout the earth for alleged purposes of investigation, met with all sorts of adventures and mishaps; but that the culmination of all was not reached until he fell among the lawyers, where he lost his tail. So far as the legal fraternity is implicated, I am supported by all my brethren in the profession when I brand this fable as absurd and libellous, without sense or even the cheapest kind of wit. And yet, there may sometimes be a feeling of loneliness and forlornness so overwhelming and which may so subdue our reason and distort our imagination, that any superstition of evil portent, even though it relates to the mishaps of the devil, is apt to enter our minds. I will not confess that I am at this moment in such a deplorable predicament; but I am tremendously impressed by the serious position I occupy. Confronted as I am with an inexorable and un pitying medical environment, it is something of an effort for me to entirely close my mind to the old story of the devil who fell among the lawyers, and to free myself from every tinge of apprehension concerning the things that may happen to the lawyer who to-night has fallen among the doctors.

It is well enough for me to enter upon my task to-night with a determination to be absolutely frank and unreserved; but the reproachful thought now vexes me that I have done ill in hinting even in a tone of pleasantry that the circumstances surrounding me justify the least feeling of loneliness or forlornness on my part. I will not forget that I am speaking in the city of Albany, where more than twenty years ago, during a short residence, I received at the hands and from the hearts of its people such kindness and consideration, and where I formed such delightful friendships, that through all the intervening years I look back upon my brief sojourn in Albany as a tired and wayworn wanderer might recall the restful delights of a shaded spot left far behind in his weary travel. Surely I could have no better or surer guaranty of indulgence and support than is afforded by the steadfastness of my Albany friends—the living still kind, and the dead still giving the reassurance which comes of sacred memories.

Another reason why I should be brave to-night grows out of my consciousness of a professional duty I have to discharge. I appear before this awe-inspiring tribunal holding a brief in behalf of an immense army of comrades as well as clients.

For the purpose of our argument, let us divide humanity in two sections—one composed of a few doctors, and the other embracing the many millions of their actual or prospective patients. I appear for myself and these millions; and I claim at the outset that, notwithstanding our large majority, the medical section of mankind has in one way or another curtailed the opportunity of freedom of thought and considerate hearing, to which we are entitled by "the laws of nature and of nature's God." We acknowledge that the world owes this minority a living. With a generous delicacy which reaches sublimity, we are on their account not over obedient to the laws of health; and we sometimes pay their bills. When sick we submit with more or less humility to their orders. If we recover, it is only to take our place on the waiting list, still subject to further service. If we do not recover, it is left to us to do the dying.

In view of these facts, I think I do not mistake the temper of my clients when I represent that there is growing up among them a feeling that there ought to be less mystery and high

and mighty aloofness on the part of their medical advisers. We have long been wont to treat with a kind of amused toleration the names in pigeon Latin or Greek, given by the doctors to very common things, and to diseases which already had names both simple and significant. All this seems to have much increased with the discovery of new remedies, and the chase after new diseases; and this increase has apparently been accompanied by additional mystery and additional inclination on the part of our doctors to remind us of their stately superiority.

We fully appreciate the tremendous advance that has been made in medical knowledge and practice within the memory of those not yet old. There are but few left who bear the scars of blood letting which depleted the veins of a former generation. In these days the fever-stricken wretch who begs for a drop of water to cool his tongue is heard with more favor than was the rich man who cried out to Father Abraham from the flaming torments of the bottomless pit. We are now told of the discovery of germs and microbes, more or less deadly, countless in number, of every conceivable size and shape, and given to habits and tastes adjusted to every emergency of their existence, which not only inhabit the earth beneath us and the atmosphere about us, but lurk in every corner and cranny of our bodies with murderous intent. Another marked and startling indication of progress in medical knowledge is found in the sentence of removal and destruction lately passed by medical science upon a certain annex or attachment of the human body, which has for centuries substantially escaped more serious accusation than that of inactive uselessness. Its detection in conspiracy against life and health has stimulated our doctors in such hot pursuit that the man who carries his appendix about with other personal belongings is probably just as comfortable if he has never heard the story of the way the devil lost his tail.

In all seriousness, therefore, I desire to concede, without the least reservation, on behalf of the great army of patients, that they owe to the medical profession a debt of gratitude which they can never repay, on account of hard, self-sacrificing work done for their benefit, and for beneficent results accomplished in their interest. But at the same time we are inclined to insist that, while our doctors have wonderfully

advanced, in all that increases the usefulness and nobility of their profession, this thing has not happened without some corresponding advance in the intelligent thought and ready information of their patients along the same lines. We have come to think of ourselves as worthy of confidence in the treatment of our ailments; and we believe, if this was accorded to us in greater measure, it would be better for the treatment and better for us. We do not claim that we should be called in consultation in all our illnesses; but we would be glad to have a little more explanation of the things done to us. We do not like to think of our doctors as veiled prophets or mysterious attendants, shut out from all sick-bed comradeship except such as comes through cold professional ministrations, and irresponsible to our need of sympathetic assurance. Nor should it be considered strange if thousands among us, influenced by a sentiment just now astonishingly prevalent, should be disturbed by the spectre of a medical trust, and like all who are trust affrighted, should cry out for greater publicity between physician and patient.

I am authorized to say, for the great body of patients, that they are naturally proud and gratified when their doctors are scientific and learned. It is a great comfort and satisfaction to us when the medical erudition accumulated through ages and the medical study of centuries, are brought to bear upon our ailments. In an unperverted state we have no tolerance for uneducated and unscientific pretenders or quacks, who promise to cure disease; and we have no faith in their nostrums and haphazard remedies. Yet these nostrums and remedies are bought and taken by hundreds of thousands, and those who manufacture and sell them amass fortunes. And our doctors wonder at these things, and charge them to the ignorance, degradation and superstition of those who should remain their loyal patients. This is a hasty conclusion, not altogether just or quite adequate to the solution of the problem. Perversion of judgment and vain imagings on the part of patients undoubtedly enter into the situation. But we all know that the sick who wait and longingly hope for health are peculiarly susceptible to these things, and that fatiguing discontent with the halting results of a mysterious and unexplained course of regular medical treatment leads directly to the camp of quacks and charlatans, who not only cunningly

guarantee speedy recovery, but capture the imagination and gratify caprice by an alluring and apparently frank explanation of the qualities and character of their remedies or treatment. These considerations suggest the possibility that our doctors themselves may contribute in a remote and indirect way to a condition, irritating and disquieting to all conscientious practitioners, and threatening harm to the great body of patients.

I feel that I have very freely availed myself of the privilege which a generous tribunal accords to advocacy and have rather bluntly hinted some things as they have presented themselves to my mind. If the substance of what I have said meets with your dissent I beg you to remember that much must depend upon our respective points of view. If the manner of the presentation of my case subjects me to the suspicion of perverting the privilege of free discussion to the purpose of flippant and inconsiderate treatment of a serious topic, I hope it will not be altogether unavailing for me to protest that I have not deliberately or intentionally sinned. I yield to no one in respect and admiration for the medical profession. I have formed friendships among its members, so strong and so warm that they not only fill a large place in the comfort and solace of my life, but by sentimental association lead me to covet the good opinion of the entire fraternity.

In these circumstances, I am glad that my professional attitude and my duty to my clients permit me to turn from an advocate's statement of grievances to a more congenial and pleasing branch of discussion.

Of course, we of the patient class as an aggregation, can not avoid the color of selfishness in our estimate of the relationship that should exist between ourselves and the medical profession. As a general proposition this quite accords with the bent of human nature; and this is accentuated in our case by the tremendous stakes of life and health which we risk upon such relationship. It may as well be here conceded that when life and health are pressed upon his attention by their demands for protection and care, every individual belonging to our class will, consciously or unconsciously, regard the highest medical learning, the most important medical discoveries, the utmost refinement of medical science and all

that there is or can be in medical ministrations, as mere agencies which should be working together for the one great end of saving his life and curing his disease.

I have used the words "working together," because they seem to be suggestive of another condition in which the great body of patients are more generally and more watchfully interested than at first glance might be supposed. We naturally desire that everything which medical science has taught should be within our reach, in our times of need. But this is not all. Nothing can divert our minds from the belief that the free course and glorification of medical science, so far as we are related to it, is largely dependent upon the harmonious opinions, the harmonious fellowship and harmonious ministrations of its office-bearers whom we delight to honor as our doctors. And so it happens that we have appropriated the words "When doctors disagree" as defining a situation not altogether favorable to our most complete realization of medical benefits. We are told that sometimes differences have arisen from opposite opinions as to the ethics that should govern medical practice. We disclaim any desire or intention to meddle with these ethics so far as they may be above and beyond us. But we can not after all escape the reflection that patients as well as doctors are necessary to medical practice. On this ground it should not be thought strange if we are somewhat alert to discover how our interests are affected by any rules of medical ethics that may be proposed. Clearly we are only entitled as patients, to ask that our privilege be not curtailed while doctors disagree, that we be not allowed to suffer while professional punctillo stands aloof, and that we be not put in jeopardy by ethical quarrels.

And so I have no fear of sacrificing the interests of my clients, nor any misgivings as to the rectitude of my course, when I claim the relevancy and fitness of all I have said as prefatory to the request I now make in behalf of myself and the millions of patients I represent, that we be permitted to join our doctors in the congratulations and felicitations that befit this occasion.

We celebrate to-night the close of the first century in the life and honorable achievement of the Medical Society of the State of New York. If it has experienced vicissitudes, they are as nothing when compared with its many triumphs. It is well

to recall them all. And yet I believe there is no single incident of its career which furnishes greater cause for satisfaction and joy to-night, than the harmonious unification of medical organization within the Empire State, which has just been accomplished under the name of this society.

Upon the resumption of its relations with the American Medical Association, it will be in affiliation with a national body nobly responsive to the highest and purest motives of the profession. We do not suspect that the ethical sentiment of the doctors of the State of New York needs prompting. And yet no scheme of medical ethics could more delight and satisfy us than the suggestive and advisory statement of ethical principles which the national organization has submitted to its constituent State branches. This statement opens with the declaration that "Physicians should not only be ever ready to obey the calls of the sick and the injured, but should be mindful of the high character of their mission and of the responsibilities they must incur in the discharge of momentous duties. In their ministrations they should never forget that the comfort, the health and the lives of those entrusted to their care depend on skill, attention and fidelity." It declares that "The physician should be a minister of hope and comfort to the sick," and that "The opportunity which a physician has, of promoting and strengthening the good resolutions of patients suffering under the consequences of evil conduct, ought never to be neglected." The truth which underlies the real gospel of the profession is thus announced: "There is no profession from the members of which greater purity of character and a higher standard of moral excellence are required than the medical; and to attain such eminence is a duty every physician owes, alike to the profession and to patients. It is due to the patients, as without it their respect and confidence can not be commanded; and to the profession because no scientific attainments can compensate for the want of correct moral principles."

Assuming that we of the patient class are admitted to the rejoicings and felicitations of our doctors to-night, may we not be permitted to express the wish that the cup of our hopes and desires may be completely filled by the adoption on the part of the rehabilitated Medical Society of the State of New York, of ethics so generous, so necessary and so Christianlike?

I can not close without suggesting the thought that on every account you of the medical profession should be sympathetic, tender, reverent and God-fearing men. You can not escape contact with sickness and death, with dire distress, with anguish too deep for tears and with mute heartbreaking—all appealing to your ministrations. And you can not avoid the awful thought that no impious hand should explore what God has most fearfully and wonderfully made the abiding place of His Holy Spirit.

Tread lightly, gentlemen, for you have to do with temples of the Holy Ghost.

II. THE STATE AND THE DOCTOR.

By ST. CLAIR MCKELWAY, LL. D.,

Vice-Chancellor of the Board of Regents of the University of the State of New York.

My Friends: I congratulate you on the attainment by the society of an age so respected and so long. I especially congratulate you on the condition of reunion and of fellowship which has been made finally effective and which renders this anniversary significant of far more than the mere age of your organization which it attests.

There is, perhaps, a propriety in my addressing you. What you think of yourselves can be assumed. The effect of culture, character, competition and contention on a profession from which there is no appeal except to God and to the undertaker can be imagined—and is evident.

What an outsider thinks of you must be surmised. Officially I am an outsider. Sympathetically and by your kind indulgence I am likewise an insider. I often addressed this organization before any line of demarcation was drawn in it. I subsequently addressed, with polar impartiality, not only the organization which annually meets here, but also your temporarily separated brethren who met in Manhattan, which is sometimes incorrectly called New York. I invariably espoused the cause of the State society, before the State association. I did not hesitate to espouse the cause of the State association before this society. Some of your society would rather be kissed than cuffed, but while each of you

insisted upon being right, the fact that your lines have been reformed on the basis of the old fellowship shows that the final right has been ascertained, and that lots need not be cast nor disputation multiplied as to which of the two was the more or the less right—or wrong—at the time of separation.

I shall hold no such inquest. I shall neither suggest nor provoke taunts. The best way to agree is to agree; the best way to maintain agreement is not to review or to revive misunderstandings which have been composed.

I am free to say that all doctors who meet here, and all laymen, rejoice that the causes of separation are submerged in the fact of the reunion itself. The casuists might study these causes. The study might furnish a text or a pretext for vivisection. The process would be more industrious than benign. The conclusion would be more dogmatic than educational. It is enough—and it is gratifying—for us here and now to know that where there were two there is now only one society, and that for the long future as during the long past—prior to the separation—the physicians and surgeons of the State of New York represented in this society are and will be one.

OFFICERS ALWAYS REPRESENTATIVE MEN.

Before proceeding to any debatable topics and before indulging in any polemical suggestions, permit me affectionately to recall the pleasures of our long fellowship. Your officers now are representative men. Your officers in the past were representative men, both in citizenship and in medical science. Who here can forget the refined presence, the simple nature, the profound learning and the steady principle of Dr. Hun? All here will remember the subtle wisdom, the tactful diplomacy, the strong character and the hypodermic personality of Dr. Gray, the great alienist. None of us can have failed to mourn the recent loss of Dr. Didama, who, full of years and of honors from his profession and from his fellowmen, lately fell on sleep in his home city, which regarded him as her most venerated son.

None of us here, going further back, can ever forget, while memory holds a seat and love a place in our hearts, Jacob S. Mosher, of this capital. He was a wit among scientists and a scientist among wits, and as a friend, a com-

panion, a helper of his fellowmen, the memory of him is blessed. Nor is Wey, of Elmira, or Moore, or Rochester, or many a former officer of this society, lost to the mind. Their characteristics are cherished, their influence is still pervasive, and they can never be forgotten in the gatherings of their brethren.

I shall not suggest many names from my end of the State. They are well known to you, and hardly need suggestion. Some of them were among my companions, and to them I cannot without emotion refer—they were my dear friends, and they were yours. We all know that Flint and Sims and Hutchison and Delafield and Mitchell and Crane and Chapman left upon the lives of their colleagues or of their pupils an influence which those colleagues and those pupils will, in turn, transmit to their successors, in coming generations. The light passes from hand to hand. The light is never put out. It is inextinguishable; it is immortal.

THE ACCOMPLISHED REUNION.

I do not know under what conditions you have accomplished reunion. I feel sure the conditions were candidly canvassed and are clearly understood. I can recall with distinctness the period of your separation and I, perhaps, could technically hint at the questions which led to it. I know they were intense questions. I know that the differences which they aroused were sincere. I know that the severances which they caused were acute and were grievous. I am sure that the respect which each of the former societies had for the other was unimpaired. We will do well to remember that those who went off from us did so without bitterness, and with regret. They will do well to believe that those who stayed by and held the fort felt that they should do so in order to be faithful to those with whom they acted and to the obligations of service which they had laid upon the State and the State on them. But we are here together again to-day and we are here to face, not the past with analysis or with acrimony, but the future with hope and confidence.

Many things have occurred. The average estimate of life has been lengthened. The list of diseases regarded as incurable has been made smaller. The percentage of mortality from difficult

diseases has been greatly lowered. So large is this reduction that the revenues of your profession must have been perceptibly impaired, except in favored instances. Patients are fewer in number. Diseases are shortened in duration. The area of your lucrative practice and the period of complaints which make your practice lucrative have both become less. You may yet have to imitate the wise men of your calling in the East. You may have to charge, not for making persons well, but for keeping them well. Your income may have to be conditioned on the prevalence of health and may cease to depend upon your restoration of ill patients to health. The wise book says: "Those who are whole need not a physician." The time may come here, as it has come in the older, and, as it seems to us, the less cultivated portion of the world, when the physicians will need those who are well, and whom he keeps well, to be the measure of his income and the warrant of the confidence or of the competence he would command. Fancy could multiply comedies out of what may seem to you to be a paradox, but the paradox of one age may become the acknowledged principle of another. It often has.

FIELD OF THE SPECIALIST ENLARGED.

Why life has been measured with more profit to the insurance companies than to the policy holders has become evident. Complaint against that inequality is widespread. But why the doctor who keeps us well should not be so well regarded as the doctor who makes us well, after we have made ourselves ill, might be sincerely, instead of cynically or clinically, asked. This is not so absurd as it may seem. Your profession has divided the patient into compartments. Your profession has subdivided its members, into specialists. The general practitioner still obtains, and many of them, I am glad to say, can be seen here to-night. But he is accustomed more and more to call the specialist into consultation with him. He can bring to the specialist a thorough account of the personality, the environment and the life and habits of the patient. The specialist can bring to him an accurate knowledge either of the complaint from which the patient suffers or of that organ of the patient which is particularly affected by such complaint. I recall Disraeli's definition of a medical consultation. "It is," he says in *Lothair*, "an

occasion on which the consulting physician indorses the policy of the superintending practitioner—and changes the treatment.”

I shall seek to explore none of the mysteries of your calling and to turn up none of the secrets of your prison house. If “I could a tale unfold whose lightest breath” would accomplish all the dire results which Hamlet, in his soliloquy, both predicted and feared, I would not. But I would have you bear in mind that you must seriously consider whether, by your very skill, you may not be undermining your own practice and impairing your own revenue. Of course, those nations which we flippantly call “heathen” are indifferent to the ailing, impatient with the aged and almost hostile toward the dying. So were the Greeks. So were the Romans. So is not modern civilization. There must be harmony between due sensibility to suffering and the pride and power commanded, and demanded, by health. The new dispensation must ameliorate the hardness of the old; but must borrow from the old some of the value which that old placed on health, for the sake of health, and on the usefulness of health itself to the age and to the State. And your own profession must realize that the State—as that political expression is understood by this generation—takes, not your quarrels, not your differences, not your divisions, not your scholastic distinctions into account, but your patients, both as citizens and as sovereigns. The State recognized different schools of medicine before they recognized one another. The State long waited for now legally recognized schools to agree with one another, and when it found that they did not, could not or would not do so, then the State came in and did its own work of recognition. That accomplished more than was at first realized.

THE STATE-MADE DOCTOR.

It shifted the center of power from over the heads of doctors to the State government. A doctor thereafter became a State-made product. He remained a medical college pupil, but as a doctor he became, if not a product, then at least the creature, of the State. New York well nigh led off in this. Other States have since assumed the control of doctor-making in the final stage. The tendency among many States is indifferent to the ramifications of groups of your calling whether they flock together or, in the language of Dundreary, “flock separately.” As already said, the State did not willingly or suddenly or vio-

lently assume control of the making or of the recognition of doctors. The State gave to them plenty of time and plenty of hints to do that themselves. Those opportunities were not availed of. The schools which the State recognized, as organized facts, then collectively became the subject of State consideration. The State established for all intending surgeons and doctors a uniform degree of primary instruction. The State saw to it that the different schools, as nearly as could be, established a uniform degree of direct medical instruction. That set the present system going in this commonwealth. On the whole, it has gone on very well. It is not ideal, but it is practical. It is also progressive. It carries in it for medicine a reasonable assurance against ignorance and for patients against quackery. If, however, patients insist on preferring quackery, they have a constitutional right to do so, but they must prefer it openly. It cannot be palmed on them covertly, under State auspices. This is a great gain.

The question is practically settling itself. It was supported, and it was opposed. There were arguments for it, and there were protests against it. These will long continue. Some things, however, must be regarded as established. The State is and will remain the guarantor of doctors. Practitioners or colleges are their teachers, and will remain so, but the State will be—to speak practically—the final doctor-maker, and its stamp must be the last affixed. Those who receive its stamp will be the only ones. “None others genuine” will be the excluding language, or fact.

The present issue is not shall this be undone. It will never be undone. The pressing question is, shall more of it be done than is already done? Here is where the State must again come in. Without forecasting its action, I think one can tell where the State will take its stand. It is where we should all wish the State to take its stand, and having taken it, to hold it. Nearly every year the State is urged to recognize some new division or branch of alleged medical theory or practice, in addition to those already recognized. Whether the State will do that or not is not for you nor for me to determine. But it is for you and for me, as citizens of the State, to consider, and by our consideration to help this State to a right conclusion. The State should not and never will lower the standard of primary medical education. It should not appreciably lower the standard of

specific and final medical instruction for those for whom it maintains it.

The State should insist upon the literary and clinical requirement of that instruction, and upon the final examination of the steps of that instruction, under State auspices, within the subjects to which each school is limited and addicted.

Incidentally that final examination is, to a degree, under the supervision of the Regents. The Regents do not name the examiners. They make selections of them from among the names submitted to them by the three medical divisions recognized by State law. Nor do the Regents propound the questions. They are propounded by the representatives of the different schools named to the Regents. The examinations are rated in the usual mathematical and impersonal way, which is admitted by all to be practically just.

FUNCTION OF THE BOARD OF REGENTS.

The pleas made to the Legislature and through the press to the Regents and the politicians for additions to the list of medical divisions to be recognized by the State are natural and are pathetic. The sincerity of these appeals is manifest and should be cheerfully admitted, but they should really be addressed to the State. They cannot properly be addressed to the Board of Regents. That board simply receives orders from the Legislature. That board has respected the orders it has thus received. That board is limited by those orders. That board never sought those orders; it never desired them, but it has never declined them. It has simply obeyed them. The board, legally authorized and protected by the Constitution, is personally named by the Legislature. Its policy of awaiting the orders of the Legislature is alike loyal and logical. You, gentlemen, represent the senior and the more numerous and the more influential school of medical theory and practice. You are yourselves authorized to meet, before the committees of the Legislature, all applicants for further legislative recognition in the field of medicine. It is to the Legislature and not to the Regents, you should signalize your proverbial preference of peace to war and of harmony to discord. You should leave to the Regents the execution of the will of the State. You should not expect of the Regents the retardation or the expansion of that will; but I can assure you

that the Regents—as I have said—will favor the maintenance of existing elementary educational tests for intending students of medicine as a preliminary condition to the commencement of their studies. Should new applicants seek to avoid or to lower these preliminary tests their prayer to the State to suspend or to reduce or in any substantial degree to evade these tests should not, in our opinion, and I am sure should not, in your opinion, be granted, except on conditions to be clearly understood. Should new applicants meet preliminary tests, their claim to final State examination will remain for the Legislature and for the Governor to settle, and for the Regents, so far as they conscientiously can, to maintain a loyal regard to the ordered will of the State.

I have set forth these plain facts and have made these plain distinctions, for a plain reason. The Board of Regents, of which I still have, for a short time, the privilege to be a member and the presiding officer, has been urged to support the application to the Legislature of interests and of organizations which claim a medical recognition that the law does not at present allow or extend. My colleagues and myself have found life made more lively than we could wish by appeals, and are conscious that the appeals themselves have behind them a considerable body of sincere opinion and of earnest sentiment. We have been just as earnestly urged to repel this sentiment as to recognize it; just as earnestly urged to oppose it as to favor it.

THE PRIVILEGED AND THE UNPRIVILEGED.

The whole situation grows out of the State's assumption of the conditions to determine both initial and final educational tests in medicine and in surgery, in lieu of leaving, as in the past, the determination of them to the different and to the differing medical schools themselves, which were unable to agree upon them. It is natural for those benefited by present conditions to wish to retain them and to prevent others from sharing them with them. It is natural for those who would also share them, but who do not, to try to obtain them. The Board of Regents is thus beset both by the privileged and by the unprivileged. It is made very conscious of the existence of both and of its bombardment by both. We shall never presume the State will reduce its preliminary educational tests. As already frankly stated, we do

not believe the State should, nor can we presume the State will, reduce its final professional educational tests. It should require every one to know the how and the why of what he proposes to do and should then allow him medically to do nothing else under States auspices.

Frankly, should the State do less, the Board of Regents could well ask the Legislature to relieve it from all the medical work delegated to it, and unasked by it. Like work, however, has been delegated to us in the case of other learned professions. The improbability that the State will lower its standard is as plain to us as the fact that the State should not do so.

But there can be no reason for supposing that, given an equal degree of preliminary knowledge and given an equal standard and an equal period of scientific education, the board will be inhospitable to any new claimants for medical consideration by the State, who ask for what is just and fair.

The career of organized medicine has been marked by many advances. It has been signalized by many enlargements. It has been modified by many classifications. These have taken effect upon medical and surgical study and practice. All these events justify the supposition that evolution has not been brought to a stop and that the end has not been written against any branch of scientific study or practice.

I know these questions have been threshed out before, but there is need to thresh them out again. That must probably be done this very winter. Legislators and school men have been urged with uncommon vigor to lower the standards, on the one hand, so as to let in the ill-prepared, or so to enforce the standards, on the other hand, as to make the present beneficiaries of them their exclusive possessors. On the one hand we have been asked to vulgarize the standards; on the other hand, to monopolize them. The State has the power to do either. I confidently predict the State will do neither. No steps backward have been taken by the State in medical education. Steps forward were long too few and too slow. At certain times they were too many or too quick, but the average maintained, while it may be raised or made less inelastic, will never be reduced, and that average here is less than that of more boastful States.

A GLIMPSE AT CO-EDUCATION.

There is a series of propositions which grow out of the general statements which I have advanced, but which have a relation to the subject we are directly considering. Institutions, in New York for instance, on private foundations, in a few instances, illustrate co-education. State institutions, in Western commonwealths, illustrate that and those States will not recede from it. Former generations of voters in newer States, for reasons of economy, introduced co-education. For reasons of progress and of justice, and no longer merely of economy, they have carried co-education from the primary clear through the university. They love the system. Their fathers and their mothers were educated under it. This generation, gratefully, loyally and proudly maintains it. Our own commonwealth has not yet provided the capstone of free university education, to crown the foundations of free primary and secondary education. But, right or wrong, the plea is spreading, that our own commonwealth should do so.

The commonwealth is richer than all private wealth. From this fact grows, and is growing, the belief that the State should freely bring within the reach of all its children everything that private wealth can bring within the reach of its beneficiaries. "The best is alone good enough for all." This condenses the policy of the Middle Western, Northwestern and the Pacific States. This perhaps prophesies the pregnant purpose of the awakening South. The belief is gaining that New York itself will come to the substantiality of this. Some of us may not live to see it. Some of us may make our lives bitter by the futile violence of unproductive activity against it. But it will come, and we will go, and the memory of us, when we are gone, will be sweet, in proportion as we shall have foreseen and welcomed the larger and the better day, or the era will pass us by, unhonored and unsung, if we carp, and we will die disobedient unto the Heavenly vision. The free provision of the highest education by the State is, I think, ultimately inevitable. Whether or not it should so be provided for the sexes in separate institutions, or co-educationally, is a detail. The detail is not important.

This has a relation to medical education. This State insisted on prescribing primary standards to its own schools

and then monopolized the control of intermediate ones through its own boards. After doing both it reserved to itself the licensure of medical, legal, dental, pharmaceutical and other learned practitioners. Whatever it may then have contemplated or intended, it then created the demand it should eventually provide and control the institutions themselves, whose human product it vices, examines and licenses. I am not unaware of the amount of property involved in private ownership of scientific school foundations. Neither am I unaware of the cost of the maintenance or of the management of private foundations. Nor am I unaware of the very gradual process of public opinion and of public action. Generations will probably pass away before the State will completely control the education of the children, from the kindergarten through the university; before the State will teach and train as well as make doctors, just as it now finally examines them and exclusively commissions them. Nor should one for a moment conclude that there will be, or that I would advocate, the abolition of private foundations. There will be a division of higher learning between State foundations and private foundations. Such a division already obtains in commonwealths which have long conducted State universities. Nothing essential, however, will eventually be beyond the reach of the children of the commonwealth, at the hands of the commonwealth, which is now within the reach of the children who can command the benefits of private wealth. There will be no compulsion or confiscation, but there will be discrimination. The State must eventually put within the reach of all what private endowment, or private munificence, now puts within the reach only of some.

DEVELOPMENT THAT IS INEVITABLE.

My friends, whether we realized it or not, whether we foresaw it or not, this became inevitable when high schools, normal schools and normal colleges were established in the process of public education. The State slowly parted with the idea that it was bound to give only the minimum of education to its children. It slowly realized it was bound to place within their reach more than as much knowledge as would keep them out of jail, if they acted on it, and justify the putting of them in jail, if they refused to act upon it. The State slowly grew to the idea that it should raise the schooling of its children by its own hands;

at its own cost; by its own teachers, from the minimum to a modicum of education. But when the people were providing the modicum of education, the certainty, at some time, they would provide the maximum of education became apparent. The State now says "No one shall be a doctor or a lawyer or a dentist or a pharmacist or an accountant until I shall have examined him and until he shall have been commissioned by me." When the State said, that with the approbation of the callings or of the professions therewith concerned, the State gave entrance to the idea that it might control, and that it might conduct, institutions of its own like unto those, from which are now sent up to the State graduates upon whom it stamps its own imprimature. Only those whom the State thus authorizes and credentials can deal with human rights, with human life, and with what is affected by an intimate relation with human rights and with human life. There can be, and there ought to be, a degree of resistance to this, for resistance to this will be salutary. Such a resistance will of itself, be desirable to slow the process which should not be too fast. There is, and there will be, denial of this. The denial itself will be desirable, to bring out the salutary agitation which is the spiritual and intellectual and moral warrant or prelude to the necessary education. Protest against this will be desirable to open the way and to preview the steps necessary to the establishment of this. Protest will give to beaten objection itself the satisfaction of knowing that it had its day in court, of knowing that it was not brutally overridden by the impact of unreasoning, impatient and irresistible insistence.

WHAT THE STATE HAS DONE.

Much that I have before spoken to you in former years, and written about you in past times, can be quoted to the contrary of this. "When I was a child I thought as a child, I understood as a child; when I became a man I put away childish things." Since then I have seen the State in its cities establish kindergartens and high schools over phrenetic protests against both. I have seen the State establish normal schools and normal colleges against the contention that "To teach teachers to teach is as absurd as it would be to teach mothers to nurse or children to play." Well, the mothers of the overworked poor are now taught how to nurse; indeed, their children are even nursed for them amid clean and sweet surroundings, while the mothers are

away at hard work in congested city centers. To-day the children of the slums are gathered in kindergartens or in city playgrounds. To-day they are tenderly taught even how to play, instead of leaving the instinct for play to the outcome of chance, amid conditions of confusion and of dirt and the barbarisms which combine to make for sin. He who took the little children in His arms and blessed them and said of them "Of such is the kingdom of Heaven" has touched city, county, State and national life, and the human heart, with His sublime spirit. He has made much of our life the almoner and exponent of His life to many of His little ones. Very significantly, the race of His Mother, in our free American cities, has been in advance of other races, to take its children in its arms and to bless them with the blessing of education, tenderness and training; putting their little feet on the paths of right endeavor and leading them tenderly over the steppes of elementary learning to the flowery plains of trained culture.

We cannot arrest this manifest tendency if we would. Eventually the State will be as bound to complete and to perfect what it begins, as the moral and spiritual law itself, in pursuance of which the State acts, is bound imperceptibly, invisibly but omnipotently to have its way in the heart of things, and in the hearts of men. This will not be a socialism that levels down. This will be the spiritual regnancy which levels up. Nor will the State be discouraged, should the facilities it must ultimately provide be at first availed of by a very few. A splendid hospital is a public pride and a public benefaction. It is not a failure, if it be not full of patients. It is not a failure if it does not "pay" in the things of the market; it is an expression of the things of the spirit; it makes for health and happiness to the suffering; it attests the justice, the altruism and the love of the State for humanity at large.

THE CLAIM TO FREE EDUCATION.

The few who might go at the first in our commonwealth to such colleges or such universities—which would involve the teaching of medicine by the State—would not affect the duty of the State to provide for them, and the few at first who might attend would not long deter the children of the State from availing themselves of these privileges in larger numbers. As the State is richer than all its private wealth and

as all its private wealth is protected by State laws, and bequeathed at all only by State permission, and as all State law is conditioned on State justice and is self-maintained by State strength and by State conscience, so should, so will, State institutions of higher learning and of the highest learning be at least as good and as fine as any like institutions upon private foundation. The higher supply could at first be limited to the measure of the higher demand, but the demand would shortly increase and the supply would be correspondingly augmented. I have before other institutions in the past enlarged on the benign factor of privation as a stimulus to the soul of the poor, bent on getting learning, but I am now satisfied that the poor child in the rich city is entitled to free education to the limit which is at the command of those not poor.

This may cost a season of protest in colleges and hospitals, and may cost the State some reviling from both in the minds of those to whom private foundations are a form of wealth or income. That is natural; that must be allowed for; it should not be forgotten, however, that from the State or from its municipalities private medical foundations already receive a large measure of public money. They undoubtedly deserve it. But the argument against State ownership and State conduct of hospitals and medical colleges could better be urged by others than by State beneficiaries in control of such more or less subsidized institutions. State institutions of this kind need not—as already said—displace private institutions of this kind. There are colleges and universities on private foundations in commonwealths maintaining State colleges and State universities. There could, there should, there will be hospitals and colleges upon private foundations, should this State establish others on its own foundations. The State could have relegated all higher education to private initiative and support. The State long did so. But refusing longer to do so, the State opened the way for itself as an educator from the foundations to the pinnacles.

GOVERNMENT INEXORABLY LOGICAL.

Government is inexorably logical. Government as large as that of New York State may be halted from expansion. It may be checked by temporary considerations. But it will not

long be halted or long be checked. Government is the ultimate of public opinion. Public opinion in the end is expressed by government. The laws that cross that public opinion are changed. The constitutions that stand in its way are amended, or are interpreted, in line with it. There are few things more slow than the outcome of public opinion into law, within, around, over or through constitutions. The fathers—as if deliberately—sowed the path of progress or of change with obstacles so as to check the process of change itself. But change is certain, though slow. The present trend of progress is manifest. It is toward the doing for the people by the government of several vital things which government has heretofore been disposed to leave to private initiative or to private combinations. The liberty thus accorded to private initiative or private combinations has been abused. The shores of our time are grimly lined with the wrecks of character and of manhood that could not survive the pressure of inquiry or live in the white light of impartial justice. Political parties to-day are desperately trying to evade the consequences of their own defaults. They are endeavoring to realign themselves around sham issues in mock contention. They are falling, in many quarters, to pieces, under the destructive strain of a systematic, desperate and panic-stricken insincerity. So the courtiers of King Canute in vain urged him to veto the incoming ocean. So did the shivering poltroon, pictured by the French artist, in the beginning urge the Creator “to conserve chaos.” So did King George discard Pitt and Burke and lean on Lord North, only to lose his colonies and to make the bounds of freedom wider yet. In the light and under the force of the steady pressure of this ethical time toward changed and better conditions, and for new and purer instrumentalities—a pressure which can be charged with dramatic displacements and the reversal of many long-established propositions—under the light and force of that pressure should be judged, and can be foreseen, the manifest destiny of the State to take much of the higher education, as it has already taken nearly all of the primary and secondary education, into its own hands. Complete medical education under State auspices may on these accounts be surely predicted, and what is of more importance may be safely advocated and gladly accelerated and welcomed.

III. THE PRESIDENT'S ADDRESS.

BY JOSEPH D. BRYANT, M. D.,

President of the Society.

It is with happy realization and unalloyed pleasure that I desire you all to join with me in greeting this moment's existence of the medical profession of the State of New York with glad recognition. And if I am a competent judge of the meaning of the hearty coöperation that characterizes the efforts of all concerned in reorganization throughout the State, and of the seeming contentment that appears to distinguish those here assembled, then, indeed, are these feelings shared to the fullest extent by every one coming within the influence of the sentiment and labor dominating the reorganization. In any event, I beg to assure you that the medical profession of the country regards this occasion as one of the most important in the history of its existence.

The chastening influence of earnest contention in all fields of human conflict is often not unlike that witnessed in the common convulsions of nature; the air is made the clearer and the purer thereby, the purposes of God and man are better understood, and corresponding things are improved and established upon a better and firmer basis.

For a painfully long period of time the open contention existing in the medical profession of this State has robbed the profession of the significant influence in medical, and public matters, freely accorded to much less beneficent and potent bodies of men. Bodies illy inclined to salutary measures, and encouraged chiefly because of their forceful organization, even in the attainment of self-seeking aims, have badly defeated the wholesome endeavors of the disorganized opposition of magnanimous and earnest medical desire. Too often, indeed, in the past, divided medical counsel or half-hearted medical support has failed to beget the respectful consideration—on the part of those in authority—due to the justice of a cause championed by the medical profession. How often, in fact, has it happened within the easy recollection of us all that we have fittingly been told by those in authority: "When you can agree among yourselves, then come to us for aid!" This reason, or excuse, which ever it

may have been, can no longer be regarded as available for the diplomatic purposes it has served in the past.

The enrolled regular physicians of the State—not less than 6,000 in number—are to-day a united body of attentive medical men, laboring in common for commendable interests and beneficent causes. The medical profession of the State can now take hold with a firm, confident grasp in support of wholesome public-spirited propositions, and of medical advance, with the full consciousness of the fact that their united desire, or their confirmed opinion, will constitute a bulwark of moral force, not to be misjudged or indifferently considered. Please note the fact, my friends, that I refer to *general* medical and public propositions, meaning general professional and public duty, not private or personal propositions, relating more often than otherwise to private or personal desire, too frequently strongly tinged with self-seeking motives.

So long as the medical profession shall contribute its part to the interests of the public good, the public servants will heed its admonitions and respect the logic of its appeals. But when unwise personal desires or clanish purposes shall proselyte patriotic or disinterested efforts, then will the hold on public esteem be loosened, and medical appeals to public confidence become of much less avail or respectful consideration entirely forfeited. In every community, as well as in the State at large, there are broad and fertile fields for the encouragement and practice of general and special good. Therefore, "Be yet not weary in well doing" as the reward for all such labor as this, is munificent and ever exercising its influence in behalf of those who actively foster healthy sentiments.

But a moment ago it was remarked that the membership of the Medical Society of this State is 6,000. These figures are only approximate and are used at this time as an easy reckoning point to a greater membership. Every regular physician in the State should be a member in good standing in this organization, and every one thus enrolled should recognize the fact that he himself is as potent a factor in the affairs of the organization as is any other member. He should recognize as a truth that he himself is an active unit—if he shall choose so to be—and of as much importance as is any other individual unit of the organized body. And when he shall have recognized these facts, there yet remains another of far greater significance to be known, the fact

that this relationship carries with it profound responsibility—the exacting creator of onerous duty, fortified, let us hope, with abundant love for just causes; duty to ourselves and to our professional brother, to our profession, and to the people at large, and to all things that shall glorify our calling and add to the enlightenment of the world.

The present status of this medical body has been attained only through the extraordinary zeal and infinite patience practiced by the “Joint Committee of Conference,” to which some time ago the fortunes of the independent medical bodies were mutually and wisely entrusted. I desire to say at this time that although the members of the Committee have builded slowly, they have builded intelligently and for all time, and in strict accordance with the letter of the law regulating such matters. Much yet remains to be accomplished under the order of the court before the control of the affairs of the great body can be relegated by the *ad interim* House of Delegates to the completed organization. There is no doubt, however, that a year from this time you will have placed under your fostering care the fully organized body, the successful outcome of which will depend on the exercise of prudent forbearance and counsel and just action on the part of all concerned. In this connection, I desire to express the earnest hope that all who are engaged in the completion of this great work will coöperate promptly and cheerfully with those now vested by the court with the construction of the legal framework required for the purpose.

At this time, so we are legally informed, only the report of the Joint Committee of Conference and of the *ad interim* House of Delegates and the offering of a resolution of continuance of power are in order. I take this opportunity of announcing these facts at once so that no manifestation, of however commendable zeal, can give rise to encroachment on the time allotted to the scientific work of the day. If, however, there be any now, or hereafter, who may desire to communicate with the *ad interim* House of Delegates upon any matter relating to the labor in their charge, please do so freely in writing, addressed to the Secretary of that body, and I can assure you that most respectful consideration will be given the contents of the message.

If you can kindly indulge me a little longer I will read a communication that should interest you exceedingly and inspire within you a feeling of profound satisfaction:

“Dr. JOSEPH D. BRYANT, *President, Medical Society of the State of New York.*

“Dear Doctor: I have the honor to acknowledge your communication conveying official notice that the final details of the procedure in the consolidation of The New York State Medical Association and the Medical Society of the State of New York have been completed. I beg to congratulate you on this consummation, which has been long desired by the profession of the United States. Since the organization formed by the union of these two societies becomes the constituent branch of the American Medical Association in the State of New York, I beg to extend, in behalf of the American Medical Association, a cordial greeting to your Society and a welcome to the councils of a united profession.

“With best wishes, I am

“Very sincerely yours,

“LEWIS S. McMURTRY,

“*President, American Medical Association.*”

Finally, I have the great pleasure of announcing to you the delightful fact, that the Medical Society of the State of New York will be fully represented in the “Councils of a United Profession,” the House of Delegates of the American Medical Association, at its next meeting in Boston. And in this connection, may I not venture to predict that every member of the Society will hereafter early and late be found laboring along all the lines of commendable effort to promote the development of the new order of things, and that no one will raise a willing hand against a completed consummation.

IV. HISTORY OF MEDICINE IN THE STATE OF NEW YORK IN THE LAST HUNDRED YEARS.

By SAMUEL B. WARD, M. D.

Mr. President and Gentlemen of the Medical Society of the State of New York:

The statute which made possible the incorporation of this Society was passed by the Legislature on April 4, 1806. The Society was organized on the first Tuesday in February, 1807, and consequently this meeting closes the one hundredth year of its existence.

It would appear that at that time medical attention was largely directed toward climatology and atmospheric and telluric influences; for at its second meeting in February, 1808, the Society offered two prizes for the best dissertations on the topography, geology, and mineralogy of any county in the State, together with an account of the prevalent diseases in such county. The addresses of President John Rodgers, in February, 1813 and 1814, are also largely devoted to the influence of atmospheric changes in producing and modifying disease, and it is surprising how ingeniously and satisfactorily he accounts for almost all manner of complaints. For instance, "Spotted fever appeared after cold and moisture united, and disappeared when warm weather came on." And again "In our bills of mortality we find phthisis pulmonalis more frequent than formerly. The modern mode of dressing, particularly among young females, has been blamed by some as a great cause of this mischief; but the state of atmosphere, and the greater variations of weather than formerly, have given a greater force to pulmonic complaints." And again "The cold and moisture disposes to scurvy, as on the shores of the Baltic and in Holland."

Again in 1815 attention was called "to that section of the by-laws which requires every member to present to the Society all proper information respecting the geography and topography of the county in which he resides, together with an historical account of the diseases which prevail at any season of the year."

Again in 1819 President John Stearns dwells at length in his annual address on this same point, although he characterizes

as absurd the theory "That the globe possessed living faculties; the mountains were its respiratory organs; the veins of minerals its abscesses; and the metals, its diseases." But he also says that Mr. Webster has brought forward enough facts "to induce a belief that the real source of many epidemic diseases must be traced to the interior of the earth. That subterraneous fires are continually decomposing the materials of that region, and occasionally ejecting their gaseous results into the atmosphere, are facts corroborated by history, and by every volcanic eruption on its surface * * * The conjoined influence of the celestial bodies, in aiding this effect, and also in the production of earthquakes and volcanoes, must be admitted by all who adopt the Newtonian theory of tides. Whether this influence is exerted through the medium of gravitation or of electricity, is still enveloped in the arcana of nature. But it is an historical fact, that such phenomena are succeeded by epidemic pestilential diseases, and probably produced by the deleterious gas which accompanies such eruption. This may be the origin of those epidemics which, from the plague of Athens, to the yellow fever of New York, have been the subject of controversy in all ages, and which some, unable to explain, have therefore, ascribed to a Divine influence. This may be the 'To Theon' of Hippocrates."

A third prize was also offered in 1808 "for the best dissertation on the causes and best method of preventing and of curing the *typhus mitior*, or low nervous fever, which prevails in different counties of the State."

In 1809 a committee was appointed "to petition the Legislature for a law to prohibit the inoculation of the smallpox in this State," and in 1810 the County Medical Societies were requested to join in the effort. Vaccination, although only introduced by Jenner in 1798, had manifestly been thoroughly accepted in this State. Not a word is found in the printed transactions on this subject until President Romaine in 1810 refers to Jenner as having "taught us to elude a loathsome and often fatal disease, the smallpox." In other parts of the country, however, vaccination was still exciting great interest during the first years of our Society, and volume I of the Medical Communications of the Massachusetts Medical Society contains a report covering over 50 closely printed pages, read June 1, 1808, and signed by John Warren, Jack-

son, Dexter, and John C. Warren. The law to prohibit inoculation was probably desired because the Society was convinced of the superior advantages of vaccination.

President Rodgers' address in 1815 was devoted to "puer-pural" fever and was the first of several papers in our *Transactions* devoted to that subject. He admits its prevalence in large hospitals and says that this "has induced the opinion with some that it was a specifically contagious disease." In his judgment it is due to "the foulness of air in the wards, added to the collection of bad air under the clothing of the patients." He regards it as belonging to the genus *synochus* at first, quickly running into *typhus*; advocates light bed-clothes and the admission of fresh, cool air, with the administration of cool drinks and baths; deprecates routine bleeding; strongly advocates ipecac as an emetic and calomel as a purge; advises milk and lime-water as a diet, and during convalescence wine and bitter tonics.

This same topic is the subject of President Eights' address in 1832. He says that at that time the annals of medicine of this country did not record a single authentic instance of this disease appearing as an epidemic. Quoting from writers, mostly foreign, he comes to the conclusion that it is infectious; that many cases occur in the practice of one physician, or nurse, while their neighbors escape; and that epidemics of scarlet fever and erysipelas are synchronous. Curiously enough his final word on this point is "Puerperal fever I consider in all cases to be an idiopathic or original disease." As to treatment he says "It is a true remark, that much harm is done by bleeding too little, but seldom by bleeding too much." He strongly advocates the use of cathartics, hot fomentations to the abdomen, diaphoretics and calomel, but objects to blisters, oil of turpentine and emetics.

Dr. Oliver Wendell Holmes' celebrated essay on this same subject was read before the Boston Society for Medical Improvement, and printed in the *New England Quarterly Journal of Medicine and Surgery* for April, 1843. Starting with pretty much the same set of facts, Dr. Holmes arrived at a precisely opposite conclusion and one which is now universally accepted as correct. Nevertheless his position was hotly and acrimoniously combatted by no less men than Professors Hodge and Meigs, of Philadelphia, in 1852 and 1854. Dr.

Holmes' paper was republished in 1855 and soon thereafter began in this State, as elsewhere, to have its good effect in preventing this dire disease.

The annual meeting of 1818 was notable for the introduction and passage of a series of resolutions warmly advocating the formation of an American Pharmacopeia under the auspices of the several incorporated State Medical Societies and medical schools in the country.

The annual address of Dr. Alexander Coventry, in 1824, shows that at that time the attention of the profession had been definitely called to the fact that fevers and other diseases were often due to purely local causes—were endemic and not epidemic—were due to filth and other local conditions. His work was in the right direction and characterized by acute and accurate observations. He visited the city of New York in 1785 and says, "I confine myself to some observations on its locality, which in point of salubrity, I feel warranted in asserting is superior to any city of magnitude, of which mention is made, either in modern or ancient history." "The citizens of New York at that time bore in their faces the bloom of health and no signs of endemic disease were discernible in their looks." Ten years later business called him to the city again, and he found that "The inhabitants bore the marks of endemic disease," which he attributes to the fact that "many acres had been gained from the sea, and converted, as I was informed, not into airy land, but a mass of putrefiable stuff, with which the most noxious swamp in Genesee could not compare." In 1820 he found matters still worse. He then proceeds to warn New Yorkers of the inevitable results of persisting in the course they were pursuing and lays out an interesting sanitary scheme for the growth of the city. This involved the building all along the river front of a wall of solid masonry, laid in waterproof cement, the space behind it to be filled in with primary rock or clean ballast, on which capacious warehouses could be erected, and from which wharves could be built out into the stream. "A deep and wide cut in the direction of Canal street, from river to river, so that the tide might pass, ought to be made." Curiously enough he recommends that the sewers be all filled up and "every perishable substance left on the surface, where it must soon be dried by the sun, or be removed by the scavenger."

In view of the recent discoveries concerning the etiology of yellow fever it is interesting to note that President Coventry quotes from the *Révue Médicale*, for February, 1823, the report of an experiment of M. Guyon, of Port Royal, Martinique, "M. Guyon put on the shirt, while yet warm, of a man with yellow fever, wore it two hours, inoculated himself repeatedly with matter from blisters, and drank the black vomit; he went into the bed soiled with various excrement of a soldier sick with yellow fever and lay in it for six and a half hours. This patient died, and in his stomach was found a large quantity of black matter, yet M. Guyon remained in perfect health. It would be a waste of time to recapitulate the innumerable well-authenticated proofs of the non-contagious character of yellow fever."

During the first twenty-five years after the introduction of vaccination this method of protection against smallpox appears to have grown steadily into favor; but at about that time anti-vaccination cranks seem to have developed, and, as you all know, the genus has not even yet become entirely extinct. In 1831 Dr. Jonathan Eights, then President of this Society, devoted his annual address to the consideration of what he called "Vaccina, Cow or Kine-Pock," in all its aspects. His paper is almost a classic. His description of a genuine vaccination is admirable and he points out definitely how the observer may distinguish between it and what we now know to be a streptococcus or staphylococcus infection; and his arguments in proof of the protective power of vaccination and the safety of the procedure, when the virus is properly selected and the operation properly performed, are incontrovertible.

With the session of 1831 ended the first quarter of a century of our Society's existence, and a few words concerning the progress of medical education during that period may not be out of place. Prior to 1806 the laws regulating the practice of medicine in this State were most lax. Almost any one who could induce others to trust him was at liberty to practice our art. But the act of April 4, 1806, authorized the qualified physicians and surgeons of each county to form themselves into a Society, elect officers, make needful rules and appoint a board of censors *to examine and license all applicants for admission into the profession in their respective counties*. The applicant had to give evidence of having studied for three

years with some practitioner and of having reached the age of 21 years.

The same act provided for the formation of this Society and gave it the power to appoint a board of censors in each of four districts, into which the State was divided, with like powers to license candidates who might pass examinations.

In 1818 the Legislature passed an act increasing the term of study to four years from which, however, one year might be deducted if the student had pursued classical studies during that length of time, after the age of 16 years, or had attended a complete course of lectures in all the branches of medical science in a medical college of this State or elsewhere.

The next important law was that of 1827 which made compulsory three years of study, and attendance on *two* complete courses of lectures of four months each, the last in the college by which he was recommended to the Regents of the University. He must also file a copy of his license, or diploma, in the county clerk's office and become a member of the County Society of the county in which he resided.

At that time there were but 20 medical colleges in the United States. Of these, two were located in this State—the College of Physicians and Surgeons in New York city, and another of the same name at Fairfield, in Herkimer county. The former had seven professors; the latter five. Both schools were under the supervision of the Regents of the University and their diplomas carried the same right to practice physic and surgery as did the licenses granted by the boards of censors of the State and County Societies.

For many years prior to the formation of this Society medical writing was devoted almost entirely to the promulgation of absurd and contradictory theories of disease. The solidists and humoralists had their day, to be succeeded by Boerhaave, Cullen and Brown. As late as 1790 Dr. Bush enunciated some principles concerning which we quote his own words: "This system rejects the nosological arrangement of diseases, and admits only of a single disease, consisting in different forms of morbid excitement, induced by irritants acting upon previous debility. It rejects, further, an undue reliance upon the powers of nature," etc.

In his introductory address before the Medical School of McGill University, delivered September 19, 1905, Dr. A. Jacobi

most truly remarks "The actual progress of medicine began when the influence of mere theorizing was broken."

Time would be wasted if spent in an argument to convince this audience that medicine is one of the natural sciences, in fact the most difficult and abstruse of them all, and that it can, like all the rest of them, be built on a secure foundation by the inductive method only. Facts must be observed and observed repeatedly and with the greatest care to avoid the introduction of errors. Grouping these facts and reasoning upon them leads to the formulation of principles and general laws. It is noteworthy that in our *Transactions* not a single theoretical paper is to be found. Every one of them deals in the observation of facts along some line or other. It is true that the conclusions were not always correct; and the lesson to be learned from these errors is, that before we begin to reason and draw conclusions, we must be sure that our supposed facts are really facts, and that they are all the facts bearing upon the subject under consideration. Probably no motto has led to a larger number of erroneous conclusions than *post hoc, ergo propter hoc*.

During this quarter of a century one notable aid had been given to our methods of diagnosing disease. It was in 1819 that Laënnec's great work on auscultation was published in Paris. In 1821 it was translated into English by Dr. Forbes, of London. The claims for the value of this method were at first met with indifference, scepticism and ridicule in Europe; but Austin Flint¹ says "The writer can testify that, as far back as 1832, the facts of auscultation entered largely into medical teaching." Skoda published his monograph on auscultation and percussion in 1839; but as late as 1845 Dr. Phillip, of Berlin, ridiculed Skoda's work. Considering the inestimable value of this method of diagnosis and its constant use to-day, it certainly seems extraordinary that so many years could have elapsed before it gained universal recognition.

It was during this same period also that percussion became really useful, in connection with auscultation, when almost simultaneously Skoda, Piorry and Roy introduced the mediate method. The dullness of hydrothorax and ascites, and the resonance of pneumothorax and tympanites were known to the physicians of ancient Greece. Auenbrugger, in 1761,² published the

¹ First century of the Republic, p. 421.

² *Inventum novum ex Percussione Thoracis humani et signo abstrusos interni Pectoris Morbos detegendi.*

first systematic work on the subject; but it attracted little attention until translated into French by Corvisart, Napoleon's physician, in 1808, with some comments appended by himself. Skoda retranslated Corvisart's translation and comments. Auenbrugger was familiar with immediate percussion only.

It was during this quarter of a century also, between 1825 and 1832, that Dr. Beaumont made his observations on Alexis St. Martin and gave to the world the first satisfactory study of stomach digestion.

Up to and including 1831, our *Transactions* contain nothing of a scientific nature save the annual addresses of the various presidents. With 1832, the beginning of our second quarter-century, the volumes increase greatly in size, contain essays to which prizes had been awarded and other important papers read at the meetings; much the same general form as the recent volumes with which we are all familiar.

The two important papers read at the meeting in 1832 were the one of President Eights on Puerperal Fever, already referred to, and the prize essay on Delirium Tremens, by Dr. James Conquest Cross, of Lexington, Ky.

In June of that year, Asiatic cholera made its appearance in epidemic form in Quebec, and spread rapidly over this part of the country. In 1833 the two important papers treated of this epidemic. The first is by President Thomas Spencer. He locates the first epidemic of cholera at Jessore, a city nearly one hundred miles northeast of Calcutta, in 1817, though similar ones "had been described by Hippocrates, Sydenham, Morgagni and a host of other distinguished teachers, and practitioners of our art." He follows Cullen in defining cholera as "vomiting and frequent purging of a bilious humor, anxiety, gripes, spasms of the legs." He follows Good's Nosology in defining *diarrhœa serosa* as "watery looseness." The dejections almost entirely liquid, frequently metastatic, and still oftener produced by elaterium, or other drastic purgatives. Sometimes urinous, occasionally tinged with blood." He regards the former disease the same as the latter, only "appearing under an aggravated and malignant form, as an epidemic." He admits his ignorance of the etiology of the disease and says, "The first and moving cause of this, and all widespread epidemics, is known alone to Him, who has established those general laws by which universal nature is governed." His descriptions of the clinical history

and gross post-mortem findings are most complete and accurate, and his manner of accounting for the symptoms most ingenious. In his judgment it was not contagious, but depended upon "the epidemic influence, intemperance, filth, poverty, indigestible meals, changes from heat to cold, cathartic drugs, and cholera reports, producing a sympathetic terror of the population." In the same volume is printed the report of Dr. Lewis C. Beck, who had, the previous year, been commissioned by Governor Throop to examine into the existing epidemic. He found that the first case appeared in Quebec, on June 8, 1832, and that the epidemic originated there as far as he could discover, as no previous case could be traced. He submits facts and arguments to prove positively that cholera is neither contagious nor infectious, and agrees in general with President Spencer as to its exciting causes.

Numerous other papers appear on the subject of cholera, all being obliged to admit, in speaking of its cause, that "a frank confession of ignorance is always more becoming than a labored attempt to conceal it." The contributing causes, already above alluded to as tending to reduce resistance in the individual, are most completely pointed out. It is also distinctly concluded that it is neither contagious, nor infectious through fomites. Dr. James R. Manley, of New York City, in a paper read in 1835, lays particular stress upon this point, sets forth the hardships which have been the results of certain rigidly enforced but perfectly useless regulations, and in the interest of humanity begs that they be abandoned.

In 1849 a second epidemic of cholera made its appearance in this State, and as a consequence the *Transactions* for that year and the following one contain several papers given up chiefly to arguments, *pro* and *con*, as to its being contagious. That a sick person in some way conveyed it to the well was clear; that it was not contagious in the same sense as smallpox and measles were, seemed equally clear to the majority, but no one as yet hit upon the proper solution of the difficulty.

From 1830 to 1840 intermittent and remittent fevers appear to have been quite common in those parts of the State where low-lying lands were being turned up for the first time, and several papers treat of these diseases. Very accurate descriptions are given of various localities where the diseases were prevalent, and the clinical histories of cases. In 1834. Dr. Alvin Foord

read the Medical Topographical Report of the County of Madison. His paper shows that at that time quinine was recognized as almost a specific, although we are warned not to give it while the tongue is still coated and the digestion disordered; cold affusion is highly commended in cases attended with "high excitement," and he calls attention to the fact that "popular remedies of various descriptions were employed and often with entire success. * * * When no inflammatory disease exists and it appears to be continued from habit, almost any remedy that makes a strong impression upon the system frequently arrests its progress, and thus a numerous class of remedies acquire a reputation as specifics. Many of these, such as hanging the disease upon a tree, by tying as many knots in a string as the patient has had paroxysms, and then suspending it, have their advocates and frequently succeed. Thus it appears that the cure is sometimes effected by the influence of the mental upon the physical powers, a circumstance which seems to have been too little appreciated as a remedial agent by the medical profession. I have been told as a matter of fact that the paroxysms have been arrested, and the disease cured, by the subject of it climbing up stairs, or up a ladder, feet foremost, and descending in the same attitude that he went up." We may wonder whether Mrs. Eddy here discovered the germ of her alleged Science.

The first paper in our *Transactions* on the subject of phthisis pulmonalis was the prize essay for the year 1825, by Andrew Hammersley, M. D., published in the volume for 1835. He says "The prevalence of consumptive mortality, more particularly in this country and in Great Britain, has long been a theme of unfeigned regret to the philanthropist, and a cause of unmerited opprobrium on the medical profession." To show the mortality in the New England States, he quotes from the printed lists of the mortality of Portsmouth, N. H., from 1802 to 1811, which show 199 deaths from consumption in a total of 938, or over twenty-one per cent. He suggests, however, that it is probable that other conditions than true tuberculosis were included in the reported cases of consumption. His paper was a very complete one for its day and contains some points still of interest. Among the causes that had been assigned as producing phthisis, he includes the following: "It was either some acrid, corroding humor produced in the brain, and, by some inexplicable means falling down upon the lungs, and destroying their texture; or it

was the existence of some acrid or alkaline substance, or some acrimony of the blood, depending upon certain conjectural chemical changes. Even animalculae have been supposed, by their irritating presence in the pulmonary tissue, to cause this disease." His main contention as to the pathology is "the existence of tubercles as the proximate or exciting cause of phthisis pulmonalis," and he warmly contends that it is not primarily an inflammatory disease, and never to be treated by bleeding and the like. He points out distinctly the injurious effects of certain occupations, of deprivation of sunshine and fresh air, and the advantages of residence in a dry, clear climate.

It was in 1834 that a committee of three was appointed to look into the matter of the care, or rather the neglect, of the insane poor of the State. In 1835 this committee reported a memorial to the Legislature praying that a suitable building be erected and proper care instituted "of this unfortunate portion of our population." Thus was the seed planted for State care of the insane; the ripening of the fruit is within the memory of every one in the room. About this time several papers appeared in our *Transactions* on this subject, but time permits of nothing more than this reference to them.

For some years after 1845 hydrotherapy was the fad of the day as osteopathy is just now. The most extravagant claims were made for it as a universal panacea. John Balbirnie,¹ one of its advocates, says of it: "The treatment of disease now, for the first time in the various epochs and fashions of medicine, exhibits almost universal power, clearness, simplicity, certainty, beauty—attributes that assimilate it to the operations of the Divine hand. The water cure is founded on a rock, and all the winds and waves of persecution will in vain assail it." In commenting on this and other fads, of which the history of medicine is full, Dr. Bates likens the regular practitioner to the fixed star which twinkles only, but is the mariner's permanent and reliable guide, while the fad is the comet, attracting the attention of all the world for a short time, but never useful and soon passing into oblivion.

In his address, in 1848, President Blatchford refers in enthusiastic terms to the organization, the preceding year, of the American Medical Association and predicts for it a sphere of usefulness to the whole continent—a prophecy which subsequent

¹ Quoted in Dr. Bates paper, *Trans. Med. Soc. S. N. Y.*, for 1847, p. 31.

events have fully justified. The same year a suggestion was made "to insist upon a knowledge of the French language (at least so as to read it readily) as a prerequisite to granting a degree." This is a clear indication of the supremacy of the French school of medicine at that time.

President Alexander H. Stevens, in 1850, gave an admirable address, setting forth the evils of the neglect of the laws of hygiene, the immense loss of life and of money thereby entailed, and urgently recommending the establishment of a State Board of Health. During the following years several good papers appear on this subject, and a standing committee on hygiene and medical statistics became a part of the Society's organization.

At about this time homeopathy began to flourish and many of the papers in our *Transactions* are devoted to exposures of its extravagant claims.

As early as 1818 a public meeting was held in New York City looking toward the establishment of a school for the instruction of deaf-mutes, patterned after the Hartford American Asylum, which had been organized the preceding year at Hartford, Conn., under the supervision of the Rev. Thomas H. Gallaudet. In 1851 and 1852 Dr. Peter Van Buren read papers before our Society setting forth the necessity for State care of indigent deaf-mutes. At that time only 160 were being cared for, scarcely more than one-tenth of the number within our borders.

The first mention made in our *Transactions* of the use of an anaesthetic in midwifery is by Dr. George R. Burwell, of Buffalo, in a paper read in 1853. His statements throughout are practically those that are accepted to-day.

The year 1856 closes the second quarter-century of our Society's history. During that period medical work in this State was characterized by the systematic observation of diseases then prevalent—particularly cholera and typhus—and an effort, by getting together all the facts and reasoning upon them, to arrive at their causes and prevention. The popularizing of this method was of prime importance, even though the results were not as yet very encouraging. Our Society also took an active part in directing public attention to the very important matters of establishing a State Department of Public Health and institutions for State care of the insane and of the deaf and dumb. Its influence was also cast in favor of advancing the standard of medical education.

Our *Transactions* for 1858 contain three papers on cerebrospinal meningitis, which had only a short time before appeared in this State in epidemic form, although it had been known in France for some twenty years. One writer hazards the opinion that it is caused by malarious exhalations; the other two content themselves with giving excellent histories of cases, without speculating on the etiology.

In 1859 a committee of this Society, appointed for the purpose of considering the subject of vaccination, reported that small-pox was more prevalent than at any time since its prevention had become possible, and suggested as a remedy the passage of a law "which shall authorize and empower the trustees of each of the several school districts of the State to exclude from the benefits of public instruction all who have not been vaccinated." Thus the credit of originating the present law on this subject belongs to our Society.

The *Transactions* of 1860 contain the first article on hypodermic medication, by James D. Sturdevant, of Rome. He assigns the credit of the discovery of this method to Dr. Alexander Wood, of Edinburgh, who published his paper in the *Edinburgh Medical and Surgical Journal*, in 1856, although to Pravaz undoubtedly belongs the priority. It was in 1860 also that a committee was appointed to urge upon the Legislature the appointment of a State Commissioner of Lunacy.

Diphtheria made its appearance in epidemic form in this State about 1858, and the *Transactions* of 1859, and several years following, contain articles on this subject. The only point of particular interest in connection with them is that there was still discussion as to whether it was or was not contagious.

Our volume for 1861 contains the history by Dr. A. G. Purdy, of Madison county, of a remarkable case in which "Her physicians, nurses, parents and neighbors, all concur in the statement, that for about six years the suppression (of urine) has been complete, and that for eight weeks past she has not had an evacuation of the bowels. I cannot say there is no deception in this case, but think the above statement substantially correct." These conditions were accompanied by a peculiar blackening of the skin, vomiting and expectoration of pieces of charcoal, and the like, and the patient was taken to New York city and there exhibited as "the charcoal woman." Our volume for 1863, in an article by Dr. Lewis A.

Sayre, exposes the fraud and deception on the part of an hysterical woman with the connivance of her physician.

The same volume contains an important report by a committee of which Elisha Harris was chairman, urging upon the people of the State and its Legislature, the prime importance of systematic drainage for New York city and many other parts of the State. It was about this time that the treatment of peritonitis with enormous doses of opium came into vogue, having Alonzo Clark as its warm advocate, and Dr. Henry S. Downs, of New York city, publishes the case of a child ten years of age who in eleven days took 148 grains of morphia, besides opium in other forms, without the slightest symptom of narcotism being produced.

The first report in our *Transactions* of a successful tracheotomy in diphtheria is found in the volume for 1863, by Dr. William Gilfillan, of Brooklyn.

The volume for 1865 contains two articles on the eye, one by C. A. Robertson, of Albany, and the other by Henry D. Noyes, of New York, and these mark the beginning of the era of specialties.

In 1867, at the instance of the President of the Society for the Prevention of Cruelty to Animals, a bill was introduced in the Legislature asking for the abolition of vivisection. Prof. John C. Dalton made an able address before our Society, and a committee was appointed to oppose its passage. Some of you present to-day will recollect how bitter the controversy was and how long it lasted. No serious impediment has ever, in this State, been thrown in the way of this most important means of increasing our knowledge of physiology and pathology, although in 1875 Mr. Bergh vigorously renewed his attack.

In 1867 the dentists of the State assembled at Utica for the purpose of securing legal enactments tending to regulate their practice, and in the following year our Society, through a committee, memorialized the Legislature on the subject. You all know that the effort was eventually entirely successful.

In 1865 Dr. G. J. Fisher, of Sing Sing, began the publication of an article on diploteratology, which was continued in the succeeding three volumes. It is by far the longest, best illustrated and most complete paper in all our *Transactions*.

Our volume for 1868 contains a report of delegates sent by

this Society to attend the first International Medical Congress at Paris on August 16, 1867. The account they gave of their reception is quite amusing and not at all flattering. They concluded, however, that there was enough of scientific interest to pronounce the meeting a success. At the same meeting Marey's sphygmograph, which had just been brought to this country by Dr. E. R. Hun, was shown to the Society by Dr. S. O. Vanderpoel. The first mention of the use of carbolic acid and of glycerine occurs in this same volume.

In 1870 a resolution was passed by the Society, and a copy ordered sent to every Medical School in the State, expressing the opinion that it was necessary to make "didactic teaching and clinical instruction in insanity and all other cerebral and nervous diseases obligatory as a part of the curriculum of study." In the same year an effort was renewed, which had failed in the three preceding years to secure legislation making compulsory the registration of births, deaths and marriages. In the same volume is published a paper by William J. Orton, of Lisle, urging the view that one of the causes of tuberculosis was probably of a zymotic nature, as suggested by Dr. Budd and others; but that an excess of phosphorus in the system was probably equally essential.

The volume of 1871 contains a paper, quite new and important at that time, by Dr. Joseph G. Richardson, Microscopist to the Pennsylvania Hospital, on the recognition of the elastic tissue of the lung in the sputum, as a means of diagnosing pulmonary tuberculosis. The article is noteworthy also as being the first I have found, in a careful review of our publications, in which a patient's temperature was accurately noted in degrees Fahrenheit. He says of a tuberculous patient's temperature, "it was never found to be below 101° and was frequently 104°." This statement reminds us of the vast aid which the profession received at about this time from the introduction of the clinical thermometer. It was in 1870 of 1871 that my friend, the late Dr. Lockwood DeForest Woodruff, soon after returning from a visit to Europe, presented me with a black morocco case. On opening it I found it to contain a pair of clinical thermometers—the first I had ever seen. They were nine or ten inches long; one was straight, for use under the tongue or in the rectum, the other bent at an angle, so that when the bulb was in the axilla the

stem would lie flat across the chest. The graduations were not on the glass, but on an ivory scale attached to each. The stems were cylindrical, and the very fine column of mercury was not magnified, as it now always is, by a convex lens front. They were not self-registering, but had to be read while still in position; in the evening, or in the half light of a sick room, and especially if placed in the rectum, this was no easy matter. Still I remember well how proud I was at being the possessor of the best instruments of the kind then in existence. The cost was twenty or thirty times that of the perfect little instrument of to-day.

The publication of Wunderlich's work in 1869 (*Die Verhalten der Eigenwärme in Krankheiten*) gave an impetus to the study of the relation of temperature¹ to disease, and he and Liebermeister deserve full credit for compelling the attention of the profession to this most important aid to diagnosis, prognosis and treatment. The subject was not, however, entirely a new one, for Boerhaave and Van Swieten had referred to it, and Currie had recommended hydrotherapy for the relief of excessive temperature.

Before 1872 the practice of vivisection had by degrees become almost obsolete; but in that year a paper was read by Dr. A. W. Tupper making a strong plea for its retention in suitable cases and claiming that there were many more such than the practice of the day would seem to indicate.

In our volume for 1874 appear two papers by the late Dr. S. O. Vanderpoel, one on the "General Principles Affecting the Organization of Quarantine" and the other on the "Transmissibility of Yellow Fever and Cholera." His views were boldly stated and supported by an abundant array of facts, though not in accord with such as had been previously generally held. He contends that while yellow fever is undoubtedly transmissible it is *not* contagious, from the person, as small-pox is. He points out that the germ is frequently confined to the holds of the ships, where the bilgewater has access, and exerts its influence only after the hatchways are opened.

¹Complete information on this topic may be found in the following:

- | | |
|------------------|---|
| 1 WUNDERLICH. | Loc. cit. |
| 2 BERDOE. | The origin and growth of the healing art. London, 1893. |
| 3 LIEBERMEISTER. | Handbuch der Pathologie des Fiebers. |
| 4 REAL. | Encyclopaedie der gesammten Heilkunde. |
| 5 LEWINSKI, W. | <i>Deutsche Med. Wochenschrift.</i> 1885. p. 492 |

He points out that it "may be carried by currents of air for greater or less distances * * * for over a thousand feet." He also points out the fact that remaining even a year in a cold latitude will not free a ship from the germs of the disease, a fact communicated to him by the late Dr. A. N. Bell, of Brooklyn. How easily all this is explained when one considers the *stegomyia* and its natural history. With reference to cholera he says, "it is transmissible and contagious from the sick to the healthy, not by contact with the bodies of the sick, but with a material poison thrown off from their bodies, and capable of being conveyed to a distance." He claims for the production of this, as of yellow fever, the necessity of the presence of a specific germ. "The poison of cholera is cast off with the characteristic discharges of the alimentary canal." "For the immediate transmission of cholera *impure water* plays an important part."

The volume for 1877 contains a valuable paper by the late Austin Flint, Sr., ably advocating the theory, not by any means new, that pneumonia is an essential fever; he admitted his ignorance of the *materies morbi*, as he was also obliged to do in the case of typhoid, but distinctly claimed their similarity. In the same volume a paper by Dr. E. V. Stoddard, of Rochester, urging the view that typhoid fever needed for its production a specific germ from a previous case, and that drinking water was the usual method of conveying the disease, show that even at that late date these questions were not entirely settled.

The volumes of about this period contain a large number of papers on the use of various drugs in different diseases. Many of them since have dropped into "innocuous desuetude," such as baptisia tinctoria in typhoid fever; but our volume for 1879 contains a warning by Dr. A. Jacobi as to the dangers of the indiscriminate use of chlorate of potash, which proved most useful. The same volume contains a notable paper by the late Dr. Alfred L. Loomis on the Adirondack region as a health resort for tubercular patients, which has been the means of restoring hundreds and thousands of invalids to health and usefulness.

The year 1881 closes the third quarter century of our Society's existence. One notable thing about this period is the rise and rapid growth of the specialties. As before stated,

the first paper was presented in 1865; the volume for 1881 contains fourteen articles by specialists. The introduction of the sphygmograph, which, however, has not in practice justified the claims at first made for it; and the coming into use of the clinical thermometer; marked improvement in ophthalmoscopes and laryngoscopes; the first International Congress in Paris; continued studies of contagious and transmissible diseases, with consequent improvement in quarantine methods; differentiating between typhus fever and typhoid; including pneumonia among the essential fevers; an endeavor to show that pulmonary tuberculosis was transmissible; and the introduction, in 1880, by Dr. Joseph O'Dwyer, of intubation of the larynx to replace tracheotomy in diphtheria, are among the notable occurrences of this period.

In 1882 Austin Flint, Sr., presented a remarkably able paper calling attention to the great importance of the disappearance of liver dulness, and its replacement by tympanitic resonance, as a symptom of intestinal perforation, and making the following extraordinary prediction: "Opening the abdominal cavity, closing the perforation by proper surgical means, and washing out all irritating matters, it is not highly improbable will be a method sanctioned by its successful employment."

The first reference which I find to the bacterial theory of tuberculosis is in a paper read by Dr. A. Jacobi, in 1884. Speaking of Hans Buchner, he says, "In his belief phthisis can be prevented by keeping out the bacillus."

An excellent paper appeared in 1886, by Dr. Alfred L. Loomis, enforcing the importance of arterio-fibro-sclerosis as a general disease and not confined to the kidneys alone. It was not put forth as an entirely original idea, but did much to draw the attention of practitioners in this State to what is now universally recognized as a very usual and very important condition. In the same year our first paper on ulcerative endocarditis appears, from the pen of Dr. H. R. Hopkins, of Buffalo. Like the preceding, this subject was not new, but the affection was at that time so rarely recognized before death that the article was most timely in calling attention to it. The same volume contains two papers on the subject of the bacteriological examination of drinking water, one by Dr. William Hailes, and the other by Dr. F. E. Martindale.

What is now a routine, everyday process was twenty years ago in its infancy.

In 1887 Dr. J. O'Dwyer read a valuable paper, detailing the improvements he had been able to make in the process of intubation of the larynx.

As late as 1888 the question of the bacterial origin of disease was still considered by the general practitioners as so far *sub judice* that President Alfred L. Loomis thought it worth while to make it the subject of his anniversary address, and a very masterly one it was—calm, judicial and convincing. In this year was first put into operation in our Society the plan, which has since worked so well here and elsewhere, of having a symposium on some important disease of general interest, different speakers treating of it from different points of view and in different relations. In the same year Dr. J. Leonard Corning made a further contribution on local medication of the spinal cord, his first paper having been published in 1885. We all know how important the subject has recently become.

In 1889 a valuable paper by Surgeon George M. Sternberg, U. S. A., recited the direct proof by laboratory experiments of what Austin Flint and others had previously regarded as probable, from a clinical point of view, that lobar pneumonia was a specific infectious disease. In the same year another author uses the phrase, "If the germ theory of disease is a correct one, and it would seem to be;" and this was only seventeen years ago.

As an illustration of how slow the human mind is to grasp the full meaning and importance of new facts and especially to act upon them, we may note that in 1890, sixteen years ago, Dr. Paul H. Kretzchmar read a paper on the "isolation of consumptives," in the course of which he says: "We know that the source of contagion is contained in the sputa; we also know that as long as these expectorations remain in a moist state they are not apt to infect anybody, but that the dry sputa, becoming pulverized, allowing the poisonous germs to be carried away into the surrounding atmosphere, are alone responsible for the dissemination of the disease." Yet even to-day, in many localities, the precautions which naturally flow from these simple and universally admitted facts are not enforced with anything like the rigor they deserve.

One of the symposiums in 1893 was on carcinoma and it

is probable that the interest thereby aroused in this important subject was a prime factor in starting the elaborate investigations which have since been made in this State.

Our volume for 1892 contains a paper by Dr. Carlos F. MacDonald giving a scientific record of the first seven cases in which the death penalty was inflicted by electricity. His conclusions have been justified by all the experience which has since been had, and this method is now admitted to be the least objectionable which has yet been tried.

In the symposium on diphtheria, in 1894, in a paper on its pathology, by Dr. Thomas E. Satterthwaite, appears the first reference to the use of antitoxin. He gives priority to Kossel, who, in March and April, 1893, thus treated eleven children, with nine recoveries, although "these cases were undoubtedly severe ones." In the same symposium, Dr. A. Walter Suiter is the first to propose that "the State Board of Health should undertake the specific diagnosis, at the instance of the attending physician, in all cases admitting of the slightest doubt," and that laboratories for the purpose should be established and maintained at convenient points in the State.

In 1896 Dr. Willy Meyer presented a valuable paper containing some original observations on the early diagnosis of tuberculosis of the kidney, a subject which has since been more completely worked up on the lines he indicated.

Our volume for 1897 is a notable one on account of the "discussion of the relation of impure water to disease, and the cure and prevention of the latter." All of the scientific investigations since that date have added little to what is there stated as to this relation, and the methods there recommended for the purification of city supplies have not been materially improved upon.

The first paper on "the X-rays in Medicine and Surgery" appeared in 1893; and in the same year Dr. John H. Pryor, of Buffalo, called attention to the fact that of the 13,000 annual victims of pulmonary tuberculosis in this State the large majority died because they were too poor to afford the steps necessary to recovery; that it was the bounden duty of the State to care for them, as well as an important economy; and plead for the establishment of a State Hospital for incipient cases in the Adirondack region. As a result the State Senate appointed a committee to investigate the subject, a favorable report was made, and the next year a bill was introduced establishing such an institution. As

you all know it is now accomplishing excellent work at Ray Brook. A series of nine papers in 1900 on "State Care of Tuberculous Patients" contributed largely to this result.

The first Tuberculosis Congress was held in London in 1901 at which Koch gave utterance to opinions which startled many in the profession and are frequently referred to in the succeeding volumes.

Probably no better tribute could be paid to the value and efficacy of Jenner's discovery than that to be found in a paper in our volume for 1903, by Dr. P. H. Bryce, Secretary of the Provisional Board of Health of Ontario, Canada. He says, and there is no reason to doubt the truth of the statement, that "until the last three years the majority of living physicians in America and Canada had never seen a case of small-pox, and, as it has happened, the great number of cases that have been seen on this continent recently have been so mild, that we have to go back to the days of Sydenham in the seventeenth century, and of Van Swieten in the eighteenth, to find a parallel for this anomolous type of disease."

The last twenty-five years have seen most radical and important advances in both the science and art of medicine, and notably in the methods of *preventing* disease rather than of *curing* it.

The discovery that many diseases were the result of the introduction into the body of minute microscopical organisms — protozoa and bacteria — outranks in far-reaching importance any other medical discovery of the Christian era. As early as 1849 the bacillus of anthrax was seen in the blood of animals dead of splenic fever. In 1863 Rayer and Davaine proclaimed this organism to be the cause of the disease, but it was not until 1876 that Koch isolated and cultivated it. Then followed the discovery of the amoeba dysenteriae (1871) by Loesch; of the spirillum of relapsing fever (1873) by Obermeier; of the actinomyces (1877) by Bollinger; of the gonococcus (1879) by Neisser; of the plasmodium malariae (1880) by Laveran; of the trypanosoma evansi (1880); of the bacillus of malignant oedema (1881) by Koch; though this was identical with the *vibrio septique* which Pasteur had seen much earlier; of the bacilli of tuberculosis, typhoid and cholera (1883) all by Koch; of the bacillus pneumoniae (1883) by Friedlaender, by whom also, working with Weichselbaum (1884) the diplococcus pneumoniae was shown to be the cause of lobar pneumonia, although the organism had been previously

isolated by Sternberg and Pasteur (1881); of the organism causing diphtheria, first grown in pure culture by Loeffler (1884), though it had been observed early in the 70's by Klebs, and hence is known as the Klebs-Loeffler bacillus; of the bacillus proteus (1885) by Hauser; of the meningococcus (1887) by Weichselbaum and Jaeger; of the bacillus of tetanus (1889) isolated by Kitasato, though previously observed by Nicalaier (1885); of the proteus fluorescens, causing Weil's disease (?) (1890) by Jaeger; of the bacillus of influenza (1891) by Pfeiffer; of the bacillus pestis (1894) by Kitasato and Yersin; and of the bacillus dysenteriae (1902) by Shiga. To this list will probably be added an intracellular protozoön, described by Councilman, (1904) as causative of small-pox; a protozoön by Mallory, (1905) causing scarlet fever; and the spirocheta pallida, causing syphilis (?) by Schaudinn (1905).¹

To Koch, more than to any other man, belongs the credit of having initiated scientific proof of the causative relation of bacteria to disease. He first showed that it was possible to isolate these organisms in pure culture, to cultivate them indefinitely, to produce in healthy lower animals a given infectious disease by the injection of the proper pure culture, and by continuous inoculation from a diseased to a healthy animal to continue the process at will. The use of the aniline dyes, first suggested by Weigert, was an invaluable aid in conducting these investigations.

One objection advanced against the germ theory of disease is the fact, which we must all admit, that while the opportunities for investigating the acute exanthemata have always been, and still are, most abundant, and they present clinically all the features commonly attributed to germ diseases, yet the causative germs have not been isolated and demonstrated to the satisfaction of all. I do not suppose, however, that there is anyone in this audience who does not believe that these germs will also be discovered sooner or later and that when they are, the reasons for the delay will also become perfectly apparent.

Not long after the establishment of the germ theory of disease came the most important therapeutic discovery of antitoxins. In December, 1890, the first experiments on this line were published.

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 PUSCHMANN. Geschichte der Medizin.
 BERDOE. The origin and growth of the healing art.

Time forbids our going into details; but the saving of life by their administration is simply incalculable. To Behring, Roux and Kitasato most of the credit is due.

Nearly all of the other important advances in this last quarter-century flow from the discovery of the bacterial origin of disease. Among these we may mention as most prominent the purification of water supplies and the disposal of sewage; the efforts toward prevention of tuberculosis, and the importance of its early diagnosis; providing of antitoxins by the State; and municipal control of milk supplies.

But good work has been done in other directions also. The practitioner has been furnished an invaluable aid in combating disease by the establishment and perfection of training schools for nurses. Many original investigations have been carried to successful issue in cerebral localization and in the study of the functions of the spinal cord. Diseases of the blood itself, and changes in the blood accompanying other diseases, have been carefully studied and no one can successfully practice medicine to-day without aids in this direction, which were absolutely unheard of twenty-five years ago.

Physiologists have long had in their laboratories instruments for measuring the pressure in the cavities of the heart and in the blood vessels. The first portable clinical apparatus for measuring the arterial pressure in a patient was devised by von Bach in 1876. The instrument has been improved by Riva-Rocci, Janeway, Gaertner and others, and in one of these forms is in daily use by many of us. It still remains to be seen whether the facts which it furnishes are of sufficient practical importance to justify the claims that have been made for it, or whether it will suffer the fate of the sphygmograph.

It is true that Finlay, many years ago, suggested that yellow fever was conveyed by the mosquito. But theories and suggestions do not carry much weight; what is demanded nowadays is proof, followed by practical results. The whole history of medicine tells of no more logical, satisfactory and brilliant piece of work than that done by Reed, Carroll, Agramonte and the lamented Lazear, in 1901, proving beyond cavil that the *stegomyia fasciata* is the intermediate host and carrier of the yellow fever germ. The identity of the germ has not yet been discovered; but all the details of its transmission have been laid bare, the disease was banished from Havana, and the means of saving

thousands of lives and millions of dollars made perfectly clear. Verily we have great reason to be proud of belonging to a profession which has produced such men and such results.

It seems clear, from what has been said, that the past century has borne more fruit in our profession than any of its predecessors. The allegation has been made that our country has not contributed to the advance in our science as much as it ought; it certainly must be admitted that it has not yet contributed as much as either Germany or France. But we are still young; we have only recently turned our attention in this direction; the large majority of our recent graduates have hitherto been compelled to devote themselves at once to earning a livelihood; until recent years we have had very little encouragement or pecuniary aid from the government; our millionaires have long been most generous in their support of hospitals, libraries and other philanthropic institutions, but only recently have the benefits to be reaped from scientific investigation appealed to them; laboratories have now been started all over the country in which original investigations have already been made; young men are being trained in scientific methods; no better work has been done anywhere, at any time, than by our yellow-fever commission in Cuba; and it is perfectly safe to predict that the future will present a picture of which our successors will not only not be ashamed, but of which they will have every reason to be very proud.

Editorial

In those days the medical and surgical sciences were all wrong, if we may believe them to be now all right. A New York writer has said that more lives had been destroyed in that city by physicians than by all other causes whatever.

Virginians at the school of medicine in Edinburgh had organized themselves, a few years before, into a Virginia Society "for the protection of the profession against quacks and impostors who had degraded the profession by mingling with it the trade of an apothecary or surgeon." An eloquent petition is preserved addressed "To the Honorable the Council of Virginia and House of Burgesses," entreating that "laws be passed forbidding the intrusion of pretenders into the domain of the authorized practitioner, thereby dishonouring the profession itself and destroying mankind." We can imagine the enormities committed by the quacks and impostors when we observe the methods of the legitimate practitioner. When a man or woman sickened, the doctors sped the parting guest,—taking from him his very life-blood, by cupping, leeching, bleeding, and reducing his strength by blistering and drenching. Nature was sometimes strong enough to give battle to doctor and disease, and even to win a victory over their combined forces. But in old age Nature prudently retired without a struggle.

The Mother of Washington and Her Times.

MRS. ROGER A. PRYOR.



The Centenary of the State Medical Society.

The hundredth anniversary of the Medical Society of the State of New York, celebrated in Albany on January 30th and 31st, and February 1st last, was a notable occasion for more reasons than one. It was not only the visible token of the centennium of existence, but opportunely, and fortunately, represented certain conditions and advances which shall remain as a permanent record of the modern progressive spirit. The addresses published in this issue of the ANNALS when read, perhaps, between the lines, reveal the catholic status of our long too mysterious science. Affection, not awe, is the emotion now inspired by the

physician. No other feeling could have brought Mr. Cleveland to his former home at the call of his own physician to speak upon the broad topic of consultation, not between physicians, but between physician and layman. One hundred years ago this was not possible. There was then too much guessing, too much personal assertion, too little exact knowledge. Reference to Dr. Ward's historical sketch is enough to show this. Mr. Cleveland describes the increased intelligence of medical matters possessed by the layman and urges further confidence. He disapproves of the nod and the grunt of mystery symbolical of the past. He observes and seeks to stimulate the tendency of the present.

No less suggestive is Mr. McKelway's philosophical discourse upon the relations of medicine and the State. From long service as a statutory umpire of education, he brings the experience of a statesman to bear upon his argument. The State cannot busy itself with individuals or with empiricism, but must insist upon proper regard for and administration of all settled questions of public health. The State will require physicians to be educated to meet these requirements.

Finally, as another step toward the goal is the announcement by Dr. Bryant, the President of the Society, of a united profession. Twenty-three years ago disputes arose, as disputes usually arise, not upon accepted principles, but upon points upon which honest differences of opinion may exist. The trifling character of these contentions is at last revealed, and the State Medical Society again represents the regular profession of the State.

May the second century prosper us as has the first!



The Nursing
and Care
of the
Insane.

In the *Trained Nurse* of February, Miss Kate A. Sherry, R. N., Matron of the St. Lawrence State Hospital, publishes a prize essay with this title. Miss Sherry mentions some requirements which it would be well for physicians to heed. She says, "In our dealings with the insane we should always be truthful, strictly upright and straightforward." Miss Sherry's experience has probably taught her how often this golden rule is violated, not in the hospital for the insane, but by the friends and family of the patient; and how often it is her duty and the duty of her associates, and how difficult this duty is, to bring assurance and con-

fidence after all faith has been lost in a deeply complicated plan of deceit. It is not beyond reason to say that this abuse of the patient in the early and curable stages of disease, may determine chronicity. As to the outlook in insanity, from the nurse's standpoint, Miss Sherry states that "by a uniform course of steady, unwavering attention, gentleness, kindness and sympathy, with the skill of the especially trained nurse, the insane are made as happy and comfortable as possible, and improvement or recovery is the rule." To attain this is required an intimate association with the insane, "in order to study carefully their manner of thought and actions."

Little Biographies

III. JULIUS CAESAR ARANTIUS.

ARANTIUS, Julius Caesar, (Aranzio, or Aranzi Dei' Maggi), was born in the city of Bologna about the year 1530. He commenced the study of Anatomy at a very early age under his uncle Bartolomeus Maggius, and later was one of the most brilliant students of Vesalius. His degree of doctor of philosophy and surgery was received from the university of Bologna and in 1556 he was appointed to the chair of anatomy and medicine at that same school, a position which he held until his death in 1589.

Arantius is described by all who write of him as a man of remarkable energy, laboring with unceasing energy on any subject which interested him, denying himself both sleep and food if opportunity seemed ripe.

While his writings are not many they are of the greatest interest, correcting, as they do, many errors of other students of anatomy and forming the basis of many future discoveries. They are: "De Humano Foetu Opusculum," 1564, an enlarged edition of which, enriched by the results of the dissections of several pregnant women was published in 1579; "De Tumoribus secundum Locos affectos," 1581; "Observationum Anatomiarum Liber," 1587; "In Hippocratis Librum de Vulneribus Capitis Commentarius brevis," 1580; "Consilium de Tumoribus Articularum" 1580. At the time of his death he was engaged on a commentary on Hippocrates on the diseases of women.

Arantius' work on the Foetus was the first in which the subject was described from actual observation and in addition to its being at that time novel in its views is remarkable for its accuracy and clearness. In it he describes the change which the uterus undergoes in pregnancy into a spongy, thick, laminated tissue and disproves the existence of any bodies in the human uterus at all similar to the cotyledons described by the ancients and some of his immediate predecessors. He notes the great enlargement of the blood vessels of the uterus and describes with great particularity as well as accuracy their origins, distribution and anastomoses. He supposed that these vessels formed the placenta, or as he called it the *jecur uteri*, and that the ovum or seed shoots out arteries and veins into the substance of the placenta for the purpose of nourishment, as plants shoot their roots into the ground and he called the placenta, "the liver of the uterus." He disputed the communication between the maternal and foetal circulation, described the general arrangement of the trunks of the umbilical vessels and their branches, denied that the urachus was an open canal in the foetus and therefore disputed the existence of the allantois, described very accurately the position of the foetus, the foramen ovale, ductus arteriosus and ductus venosus and showed that the blood after birth could only pass from the right to the left side of the heart through the vessels of the lungs, thus preparing for the discovery of the circulation of the blood by Harvey. Of all these things Arantius' descriptions were the first or the best that up to that time had been written.

Arantius' observations were miscellaneous and it is difficult sometimes to say just what he did discover as many of his descriptions, like those of his predecessors, are not sufficiently perfect to make it certain exactly to what they allude. He was the first to describe the inferior cornua of the ventricles of the brain giving them the name *hippocampus*; the taenia semicircularis and its connection with the fornix; extensor indicis, coraco-brachialis, constrictor vaginae, and tensor vaginae femoris muscles; the os orbiculare; and the levator palpebrae superioris, which he discovered when he was only eighteen years of age. The little masses of fibrous tissue on the aortic and pulmonary valves which are still called after him, he first described, and his whole account of the muscles of the arm, tongue,

ear, eye and abdomen would alone prove his right to be called a great anatomist.

The chapter in the "Observations" which relate to "the method in which the blood passes into the left ventricle of the heart" shows that he had a distinct notion of the circulation of blood through the lungs and his arguments might have established the existence of that part of the circulation had he not obscured them by the suggestion that the office of the mitral valve was to prevent the air from passing from the left ventricle into the aorta. His description of the choroid plexus is accurate and he describes, by the name of "the cistern of the cerebellum," with great particularity, what we now call the fourth ventricle.

He made many improvements in surgery, pointing out that herniæ, even of a large size might be produced by a dilatation without any rupture of the peritoneum, demonstrated the differences of the veins affected in internal and external hemorrhoids, introduced the cutting operation for fistula, invented a forceps for the removal of nasal polypi, and claims to have first pointed out the deformities of the arch of the pubes as a source of difficulty in childbirth and Sprengel (*Hist. de la Medicin*, III, p. 418), states that Arantius introduced the Cæsarian operation into Italy and practiced it with great success.

SPENCER L. DAWES.

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Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH—CITY OF ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, JANUARY, 1906.

Deaths.

	1902	1903	1904	1905	1906
Consumption	17	30	14	22	14
Typhoid fever.....	2	1	1	1	2
Scarlet fever.....	0	2	0	0	0
Measles	0	0	0	0	0
Whooping-cough	0	4	0	1	0

<i>Deaths, continued.</i>	1902	1903	1904	1905	1906
Diphtheria and croup.....	3	0	1	0	1
Grippe	0	3	2	3	3
Diarrhœal diseases.....	4	0	3	3	2
Pneumonia	9	10	16	21	15
Broncho-pneumonia	3	6	3	5	4
Bright's disease.....	14	10	15	19	17
Apoplexy	12	5	9	14	8
Cancer	7	8	8	9	13
Accidents and violence.....	6	4	3	8	3
Deaths over 70 years.....	31	29	32	41	28
Deaths under one year.....	10	21	20	16	15
Total deaths.....	141	153	135	181	145
Death rate.....	16.59	18.01	15.89	21.30	17.06
Death rate less non-residents	17.18	15.18	14.83	20.01	15.77

Deaths in Institutions.

	1903		1904		1905		1906		
	Resident	Non-resident	Resident	Non-resident	Resident	Non-resident	Resident	Non-resident	
Albany Hospital.....	5	3	11	4	8	6	7	7	
Albany Orphan Asylum.....	1	0	0	1	0	0	1	0	
County House.....	3	3	2	0	4	0	1	2	
Home for Aged.....	0	0	0	0	1	0	0	0	
Home for Friendless.....	0	0	0	0	0	0	0	0	
Homeopathic Hospital.....	0	0	0	0	1	0	0	0	
Hospital for Incurables.....	0	0	0	0	0	0	0	0	
House of Shelter.....	2	0	1	2	1	0	0	3	
Little Sisters of the Poor.....	0	0	0	0	0	0	1	1	
Penitentiary	1	0	0	0	2	1	2	0	
Public Places.....	1	0	0	0	0	0	0	0	
Sacred Heart Convent.....	1	0	0	0	0	0	0	0	
St. Francis De Sales Orphan Asylum	0	0	0	0	0	0	0	0	
St. Margaret's House.....	2	0	1	0	1	0	4	0	
St. Peter's Hospital.....	3	1	4	1	3	3	4	1	
St. Vincent's Female Orphan Asylum	0	0	0	1	0	0	0	0	
Births at term.....								74	
Marriages								30	
Still births.....								7	

BUREAU OF CONTAGIOUS DISEASES.

	1902	1903	1904	1905	1906
Typhoid fever.....	9	8	4	5	4
Scarlet fever.....	5	9	5	4	14
Diphtheria and croup.....	46	14	11	7	9
Chickenpox	5	12	5	8	8

Bureau of Contagious Diseases, continued.

	1902	1903	1904	1905	1906
Measles	12	10	1	10	4
Whooping-cough	1	5	2	0	0
Consumption	1	5	0	4	0
Totals.....	79	63	28	38	39

Contagious Diseases in Relation to Public Schools.

	Reported		Deaths	
	D.	S. F.	D.	S. F.
Public School No. 1.....			1	
Public School No. 3.....			1	
Public School No. 4.....			1	
Public School No. 5.....			1	
Public School No. 12.....		1		
Public School No. 13.....		1		
Public School No. 21.....		1	3	
Public School No. 22.....			1	
Lady of Angels.....		1		

Number of days quarantine for diphtheria:

Longest..... 20 Shortest..... 7 Average..... 20

Number of days quarantine for scarlet fever:

Longest..... 39 Shortest..... 4 Average..... 23½

ANTITOXIN.

Cases of diphtheria reported.....	9
Cases of diphtheria in which antitoxin was used.....	7
Cases of diphtheria in which antitoxin was not used.....	2
Deaths after use of antitoxin.....	0

PLUMBING INSPECTIONS.

In the Bureau of Plumbing, Drainage and Ventilation there were one hundred and seventy six inspections made, of which one hundred and fifteen were of old buildings and sixty-one were of new buildings. There were thirty-five iron drains laid, twelve connections with street sewers, seventeen tile drains laid, five urinals, two latrines, forty-eight cesspools, forty-two wash basins, thirty-six sinks, thirty bath tubs, sixteen wash trays, one butler's pantry sink, two trap hoppers in yard, eighty-six tank closets, three sloop hoppers, two stable wash stands, and two horse troughs. There were sixty-nine permits issued, of which fifty-six were for plumbing and thirteen for building purposes. There were sixteen plans submitted for approval, of which six were of old buildings and ten for new buildings. One house was tested on complaint, with peppermint test. There were eight water tests. There were twenty-seven houses examined on complaint and one hundred re-examinations were made, twenty-three of which were found to be valid and seven without cause, and there was one violation.

Medical News

Edited by Arthur J. Bedell, M. D.

THE ALBANY GUILD FOR THE CARE OF THE SICK POOR.—Number of new cases 116; classified as follows: district cases reported by health physicians 4; charity cases reported by other physicians 50; patients of limited means 56; old cases still under treatment 42; total number of patients under nursing care during the month 156.

Classification of diseases (new cases) medical 36; surgical 7; gynaecological 7; obstetrical work of the Guild 26 mothers and 24 infants under professional care; dental 11; eye and ear 1; skin 3; throat and nose 1; contagious diseases in medical list 5; transferred to hospitals 1; deaths 1.

ALBANY HOSPITAL.—The board of governors have elected the following officers for the ensuing year: President, J. Townsend Lansing; vice-president, Charles R. Knowles; secretary, Gustavus Michaelis; treasurer, Walter Launt Palmer; superintendent of nurses, Mrs. Effie Martin Simpson. The executive committee of the governors consists of: J. Townsend Lansing, Charles R. Knowles, Walter Launt Palmer, Dudley Olcott and Albert Vander Veer, M.D. The law committee is Albert Hessberg, chairman; A. Page Smith and James McCredie.

ALBANY HOSPITAL TRAINING SCHOOL FOR NURSES.—At a meeting of the Alumnae of the Albany Hospital Training School for Nurses, held February 15th, it was decided to purchase the building No. 351 Hudson Avenue, Albany, N. Y. for a Club House.

THE NEW UNITED STATES PHARMACOPOEIA.—Messrs. Lea Brothers and Company have issued a carefully prepared leaflet giving an alphabetical list of the important changes in the new United States Pharmacopoeia. The strength of each preparation listed is given as in both the new and old U. S. P.

A free copy will be sent to any physician.

ARMY MEDICAL CORPS EXAMINATIONS.—Preliminary examinations for appointment of Assistant Surgeons in the Army will be held on May 1st and July 31st, 1906, at points to be hereafter designated.

Permission to appear for examination can be obtained upon application to the Surgeon General, U. S. Army, Washington, D. C., from whom full information concerning the examination can be procured. The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be between twenty-two and thirty years of age, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training or its equivalent in practice. The examinations will be held concurrently throughout the country at points where boards can be convened. Due consideration will be given to the localities from which applications are received, in order to lessen the traveling expenses of applicants as much as possible.

In order to perfect all necessary arrangements for the examinations of May 1, applications must be complete and in possession of the Surgeon General on or before April 1. Early attention is therefore enjoined upon all intended applicants.

There are at present twenty-five vacancies in the Medical Corps of the Army.

CIVIL SERVICE EXAMINATIONS FOR THE STATE AND COUNTY SERVICE.—The State Civil Service Commission announces examinations to be held on March 17, 1906, for the following positions:

Architectural Designer, \$25 to \$40 a week; Assistant Engineer, Onondaga County Service, \$50 to \$75 a month; Auditor of Highway Accounts, State Engineer's office, \$3.50 to \$4.00 a day; Building Inspector, \$5 a day when employed; Chief Engineer, Onondaga County service, \$1,200; Dentist, State Charitable Institutions, fees not exceeding \$40 a month; Highway Inspector, Erie County service, \$3 a day; Nurse, Monroe County Hospital, \$240 to \$300 and maintenance; Orderly, Monroe County Hospital, \$360 and maintenance; Page, State and County offices, \$25 to \$35 a month; Physician, Sixth Grade, \$900 and maintenance; Stenographer, \$600 to \$1,500, open to men only; Watchman, Onondaga County service, \$600; Woman Officer, State Institutions, \$360 and maintenance; Special Agent, Commission in Lunacy, \$5.00 a day; Transfer Tax Clerk, Queens County service, \$1,000.

The last day for filing applications is March 12th. Application forms and detailed information may be obtained by addressing the Chief Examiner of the Commission at Albany.

THE NEW YORK MEDICAL JOURNAL which lately incorporated with it the *Philadelphia Medical Journal* has recently issued a handsome edition in commemoration of the amalgamation of the *Medical News* with it.

THE SOCIETY OF INTERNES, TROY HOSPITAL, has been organized with Dr. Francis Scott (A. M. C., 1905), resident surgeon, as secretary.

WATERVLIET MEDICAL SOCIETY.—A Medical society has been formed in Watervliet with Dr. Lansing Van Auken (A. M. C., '92) as president; Dr. Robert J. O'Brien (A. M. C., '02) as vice-president; Dr. Archie I. Cullen (A. M. C., '02) as secretary. Efforts are being made to secure a hospital.

MEDICAL ASSOCIATION OF TROY AND VICINITY.—At the annual meeting of this association Dr. Hermon C. Gordinier (A. M. C., '86) was elected president; Dr. Reuben H. Irish (A. M. C., '97), vice-president; Dr. Edward W. Becker (A. M. C., '97), secretary.

PERSONALS.—Dr. THOMAS H. CUNNINGHAM (A. M. C., 1900) of Glens Falls, N. Y., has been appointed attending surgeon at the Parks Hospital, Glens Falls, N. Y.

—Dr. C. HOWARD TRAVELL (A. M. C., '94) is at No. 57 Fourth Street, Troy, N. Y.

—Dr. FRANK H. HURST (A. M. C., '95) is at Guilderland, N. Y.

—Dr. SIDNEY F. ROGERS (A. M. C., '82) of Cohoes, N. Y., was painfully injured February 5, 1906, by being thrown from his carriage.

—Dr. WILLIAM M. DWYER (A. M. C., '05) has started practice at Amsterdam, N. Y., where he has been appointed city physician.

MARRIED—SLOCUM-EVANS. On Wednesday, January 17, 1906, at Tottenville, Staten Island, N. Y., Clarence Jonathan Slocum (A. M. C., '97) of Pleasantville, N. Y., and Elvira Gwendolyn Evans of Tottenville, N. Y.

—VAN BUREN-McTAGUE. On Monday, February 19, 1906, at Albany, N. Y., Dr. James Harvey Van Buren (A. M. C., '05) of Jefferson, N. Y., and Miss Lillian McTague of Albany.

DEATHS—Dr. THOMAS G. WRIGHT (A. M. C., '96) of Troy, N. Y., died February 10, 1906, at his home after a long illness following a relapse of typhoid fever. Dr. Wright was surgeon, Company D, 2d Regiment National Guard, with the rank of first lieutenant.

—Dr. WILLIAM M. WHITE (A. M. C., '86) died at Amsterdam, N. Y., December 29, 1905, aged 50 years.

IN MEMORIAM

SELWYN A. RUSSELL, M. D.

The death of Dr. Russell, which occurred on January 10, 1906, at his home in Poughkeepsie, N. Y., was announced in the ANNALS of February. Dr. Russell had been an instructor in the Albany Medical College, had had long and varied hospital experience, had traveled widely and was well known by a great many friends in different places. The ANNALS has desired, in consequence, to publish something more than a mere statement of his death. The peculiar circumstances under which this occurred have been described in the Poughkeepsie *Daily Eagle*, and from this sketch and sympathetic appreciation of Dr. Russell's character the following extract is taken:

"The prominence of Dr. Selwyn A. Russell, the high regard in which he was held by all who knew him, and the publicity which he was always willing to give of his own views as to the treatment of cases of illness, make it seem eminently proper that something more should be given to the public than the appreciative but rather meager notices published about his death in the newspapers. Dr. Russell was a man of the highest culture and warmest sympathies. He had studied medicine not only in the Albany Medical College, but also abroad, had had years of experience in hospital work in Albany, Utica and Poughkeepsie, and had been in successful private practice both in Albany and Poughkeepsie. During

the past few years he had spent a great deal of time investigating the various methods of cure without medicine, mental science, Christian Science, and faith cure, and had come to regard them as of much importance in the treatment of disease. He read a paper on Christian Science a few years ago at Vassar Institute and attracted a large audience and provoked much discussion. It was also one of his favorite doctrines that disease was unnecessary and could generally be avoided by right living. He held in common with many other physicians, that nine-tenths of the people, poor as well as rich, eat too much, and he was rather given to prescribing meager diet for his patients. He was nevertheless not a disbeliever in the use of medicines in all cases, and was a believer in mind cure for all cases.

"Dr. Russell was out not much more than a week ago, and the first intimation of his illness came from one of his children, who said Sunday morning that he had a sick headache. Sunday afternoon a telephone message came to Dr. Guy C. Bayley at Vassar Hospital that Dr. Russell would like to see him. There was no intimation that he was ill and Mrs. Bayley accompanied her husband, supposing they were going to make a social call. When they reached Dr. Russell's home Dr. Bayley found Dr. Russell in a state of collapse, so extremely weak that it seemed unlikely that he could live through the night. He telephoned at once for Dr. Tut-hill. They could find no symptoms of organic disease, but learned that Dr. Russell had taken no nourishment for about a week. Whether he was experimenting upon himself or treating himself by fasting for some ailment not then apparent is not known. A trained nurse was at once summoned and the doctor was given nourishment every hour in the effort to save his life, but it was too late.

"There have been reports that Dr. Russell had pneumonia and pleurisy, but Dr. Tuthill says this was not the case. It seems not too much to say that Dr. Russell was a martyr to his beliefs, or perhaps to his desire to obtain more knowledge by testing one of his theories. He was not a very strong man and the test proved too severe for his constitution.

"Dr. Russell was born in Jay, Essex County, N. Y., February 12, 1851. He was graduated at the Albany Medical College in 1877, after which he spent two years as resident physician at the Albany Hospital, and then until 1883 served on the staff of the Utica State Hospital. The next year he spent in Europe, returning in 1884 to Albany, where he entered private practice until 1888, when he made a trip around the world. In 1891 he took a position on the staff of the Hudson River State Hospital, resigning a number of years ago to practice his profession in this city.

"Dr. Russell was twice married and leaves besides his widow two children by his first wife. He was a member of the Presbyterian Church, often an active participant in its meetings and an active worker in everything believed to be for the uplifting of the people. He often read papers or took part in the discussion at Vassar Institute, and occasionally contributed articles to the *Eagle*, always interesting, instructive and able. Many people will sincerely mourn his loss."

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

Psychiatry. A Text-Book for Students and Physicians. BY STEWART PATON, M. D., Associate in Psychiatry, The Johns Hopkins University, Baltimore; Director of the Laboratory, The Sheppard and Enoch Pratt Hospital, Towson, Maryland. Philadelphia and London: J. B. Lippincott Company, 1905.

Dr. Paton's book is an example of the unfortunate modern practice of quotation, particularly prevalent in the United States, and in the United States particularly characterized by deference to foreign writers. It is possible that such a book was needed to reveal the extent to which this practice might be developed, and the difficulties to which it may lead. There is surely no credit to American medicine in an unquestioning acceptance of any statement made by any author, provided he lives somewhere in Europe and expresses his thoughts through the medium of a foreign language. And yet it seems necessary, now-a-days, for the alienist to cross the sea, get some foreign flavor and discharge what is so easily acquired upon the innocents who stay at home. American readers have a right to demand that books placed before them for their information should reveal some independence of thought and some originality. This question was once raised in the deliberations of a committee upon the award in a competition of prize essays. One writer urged that his collection of reported cases was the most complete in existence. His claim was rejected as it was based upon clerical and not medical work.

Dr. Paton's book is characterized by an abundance of quotations and a deficiency in decision, which reduces its value. Furthermore it is so technical in description and so philosophic in tone that the student or practitioner, for whom it is stated to have been written, would find difficulty in comprehending the author's meaning. For example, a highly educated physician, a specialist in another department, opened the book at random, and read as follows: "The *vigility* of the attention is a term used by some clinicians to indicate the fact that the direction of the stream of energy is dirigible. The *tenacity* refers to the length of time during which the current sets in a given direction. Decrease in vigility (Hypovigility) is noted in various conditions. It is a common symptom of fatigue, as a consequence of which stimuli stronger than those normally needed are required to direct and augment the flow. The influence of various drugs, particularly opium and the bromides, may also be productive of similar results. The tenacity or persistence of the attention is profoundly affected in various forms of alienation. Not only is this true in well marked psychoses but frequently also in various functional neuroses—hysteria and neurasthenia. Not uncommonly vigility and tenacity are both affected, giving rise to a condition called 'aprosexia.'" The reader did not know what this meant.

Exception may also be taken to the author's plan of treatment in so far as he recommends isolation of the patient from his friends. "Only

exceptionally should he be permitted to see members of his own family or friends, as such interviews are frequently followed by a renewal of the symptoms." This is undoubtedly true in many cases. It should be remembered, however, that insane patients are susceptible to slight influences, that the removal from home has been accomplished with a wrench often intensifying the symptoms, that strange faces, strange surroundings, strange manipulations are not necessarily conducive to mental rest, especially when the mind is in a state of apprehension. There is often undoubted need of removal from home, which is usually delayed too long, but if the patient may be reassured by frequent visitations of friends that he has not been abandoned to whatever whim of management the physician adopts, and that the opportunity for appeal is offered, a distinct help is given, confidence takes the place of distrust, the active conditions are ameliorated and the chance for recovery enhanced. The fact of the matter is that the modern spurt in psychiatry is too impersonal. Laboratory methods of exploration are prominent. There is too much science and too little human sympathy.

Pathology and Morbid Anatomy. A Text-Book of Pathology and Pathological Anatomy. BY T. HENRY GREEN, M. D., F. R. C. P., Consulting Physician to Charing Cross Hospital, London. New (10th) edition. Thoroughly revised by W. CECIL BOSANQUET, A. M., M. D., F. R. C. P., Assistant Physician to Charing Cross Hospital. Octavo, 606 pages, 348 engravings and a colored plate. Cloth, \$2.75, net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

The tenth edition, revised from the tenth English edition, of this well known text-book of pathology presents numerous changes. These are especially noticeable in the selections on animal parasitology and those dealing with immunity to infectious diseases. An excellent chapter on auto-intoxication and nutritional diseases has been added. There are also numerous additional illustrations. The clear, simple style and comprehensive scope renders the book of special value to the medical student and the busy physician.

R. M. P.

International Clinics. Edited by A. O. J. KELLY, A. M., M. D., Philadelphia, Vol. III, Fifteenth Series, 1905. J. B. Lipincott Company, Philadelphia.

The articles comprising this volume naturally divide themselves into two groups, especially prepared original articles upon the one hand, and a citation of clinical cases upon the other. The leading article of the former group is entitled "The Therapeutic uses of the Röntgen Rays, or Radiotherapy," by George C. Johnson, M. D., of Pittsburgh, who treats the subject in considerable detail under the following sub-heads:

1. Physiologic action of the Röntgen Rays.
2. Technic of Radiotherapy.
3. Radiotherapy in diseases of the skin.
4. Radiotherapy in malignant diseases.

In conclusion he says "the whole subject is embraced in the word 'technic.' In common with every known therapeutic agent, the powers of x-rays may as easily be manifested for harm as good. What is needed at present is not more x-ray therapy, but more intelligence."

Another instructive article of the didactic style is by Albert Robin, M. D., of Paris, on "The Action of Metallic Ferments on Metabolism, and their Effects in Pneumonia." His conclusions are: 1. That metals in extreme subdivision are capable of remarkable physiologic action, out of all proportion to the amount of metal used. 2. That such metals acting in doses which therapeutics considered heretofore as ineffectual and useless, by making a profound impression on some of the clinical processes of life, whose deviations are connected with many morbid conditions, are probably destined to take an important place among the remedies of functional therapeutics.

To us the greater value of the volume consists in the report of clinical lectures, illustrated by the histories of actual cases, together with the post-mortem findings in fatal ones. Such lectures are those on "Addison's Disease," delivered by Edward F. Wells, M. D., at the Cook County Hospital, Chicago, and "Primary Carcinoma of the Hepatic Duct," by Doctors Weber and Mitchels, of London. Charming, indeed, is the style of Daniel R. Brower, M. D., L. L. D., also of the Cook County Hospital, Chicago, in his neurological clinic; one experiences a true pleasure and profit in following his varied cases. Surely this is the age of clinical instruction, both for the undergraduate and for the busy practitioner alike.

H. D. C.

A Manual of the Practice of Medicine. By A. A. STEVENS, A. M., M. D., Professor of Pathology in the Woman's Medical College of Pennsylvania, and Lecturer on Physical Diagnosis at the University of Pennsylvania. Seventh edition revised. 12mo of 556 pages, illustrated. Philadelphia and London: W. B. Saunders & Company, 1905. Flexible leather, \$2.50 net.

This well known work which has passed through seven editions in about twelve years was written as a guide for students "with the hope that it may serve as an outline of Practice of Medicine, which shall be enlarged upon by diligent attendance upon lectures and critical observations at the bedside." With this end in view it has served its purpose admirably and will probably continue to do so in the years to come. It is only intended as a summary of the subject, but as a summary it is excellent, presenting the chief points of the various diseases clearly and usually accurately; there is always danger however of students mistaking the purpose of such a book.

All of the more extended works upon the subject "have been freely consulted in the preparation" of this book which shows the same care as is evident in the earlier editions.

It is unfortunate that the section on cutaneous diseases, which logically hardly has a place therein, should not be as accurate as the other sections.

C. K. W., JR.

MEDICINE

Edited by Samuel B. Ward, M. D., and Hermon C. Gordinier, M. D.

A Fatal Case of Stokes-Adams Disease with Autopsy, Showing Involvement of the Auriculo-ventricular Bundle of His.

ALFRED STENGEL. *American Journal Medical Sciences*, December, 1905.

The author names the following symptoms that characterize the disease:

- (1.) Slow pulse, the rate falling temporarily or permanently to 30, 20 or even less;
- (2.) Cerebral attacks, such as vertigo, syncope or epileptiform seizures, unconsciousness;
- (3.) Pulsation of the veins in the neck exceeding in rate the pulsation of the arteries, two-fold, three-fold, or more.

He points out the resemblance between this condition and "heart block."

The literature as to the origin of the condition whether nervous or muscular in origin, is reviewed and conclusions made by His and others that it is muscular in origin. His has proven this possible by describing a muscular bundle extending from the right side of the interauricular septum to the interventricular septum immediately before the pars membranacea. Physiological and anatomical evidence points to this bundle as the pathway of the stimulus to contraction. It has been shown that when this bundle is severed, the auricles and ventricles cease beating at the same rate.

Erlanger, by a specially devised curved needle, acting as a clamp, was able to reach the bundle of His. The amount of pressure could be regulated by means of a thumbscrew and complete or partial constriction could be established. The result of such compression was to produce first, occasional failure of the ventricular contraction; next, a ratio of the auricular to the ventricular beats of two to one, three to one, four to one, and finally complete heart block in which the ventricles contracted independently of the auricular rhythm. Sometimes at the moment when complete heart block was established the ventricle ceased to beat for periods varying from a few seconds up to 55 seconds. Erlanger explains this as probably resulting from the fact that a certain time is necessary after complete severance of the connection between auricles and ventricles for the development in the ventricle of its inherent rhythmicity.

The author's case is as follows:

J. B. Male, age, 57 years. His personal history was negative save that he had drunk considerable beer.

Present illness began without warning about two and one-half years before. He suddenly fell backward and became unconscious for a few moments. He recovered quickly and was well for three months. Then he had another attack. These attacks became more frequent and except in the first attack he always fell forward. Some times he would not lose consciousness but would feel giddy for a few minutes. At other times his legs and arms would become spasmodically rigid. Nothing seemed to influence attacks. He lost in weight and grew steadily weaker. He never had oedema or dyspnoea.

Patient entered hospital September 19, 1905, and his condition was as follows: Well built man. No cyanosis or jaundice. Marked pulsation in epigastrium and veins of neck. Radial arteries somewhat thick and pulse 36, equal and tension slightly raised. Lungs show well marked emphysema. Apex beat in fifth interspace just outside mid-clavicular line. There is a systolic thrill at apex. Cardiac dullness extends from the third space above to the sixth rib below and from midsternum on right to a point just outside the mid-clavicular line on the left. There is a harsh systolic murmur at the apex transmitted to the axilla. It is also heard at the base. Second pulmonic sound not accentuated.

Urine showed few hyaline and granular casts, otherwise normal.

September 23. Patient began to have attacks but they were mild in character, beginning with a momentary pallor, then a flushing or cyanosis and slight tremor of the arms. After the attack the face was pale and gradually the color returned. The pulse stopped beating for a few seconds during some of the attacks. After the attack the pulse rate increased for a time, then subsided to a steady rate of 16 to 18. The pulsation of the veins of the neck continued during as well as between attacks at from 80 to 100.

During the next few days the attacks became more frequent and more severe. He died on the 27th.

During the last few days a condition of complete heart block was seemingly present. The auricular and ventricular pulsations were entirely independent. Between the paroxysms the pulse rate was from 18 to 26 and the venous rate from 80 to 140. The latter rate was sustained during and between the seizures, while the pulse beats ceased for periods varying from 20 seconds to two minutes and 10 seconds just before attacks and rose to from 90 to 140 immediately after the seizure. In the intervals the radial pulse was regular and fairly strong. Various heart stimulants were given without effect.

Autopsy.—The heart was hypertrophied but the muscle was unaffected by any degeneration or sclerotic change excepting in the very limited area of the middle portion of the auriculo-ventricular bundle. There was a patch of atheroma, sclerotic and white, on the anterior mitral leaflet towards its base and aortic edge. It extended to the endocardium exactly over the bundle of His where this band passes from the ventricle to the auricle.

A Case of Stokes-Adams Syndrome, with Necropsy.

A. RENDLE SHORT. *The Lancet*, January 6, 1906.

The author briefly reports the case of a painter aged 50 years who entered the Bristol General Hospital, August 27, 1905, complaining of fits. His personal history was negative and his present trouble began 18 months before, when he had influenza. Since then he complained of headaches and giddiness. His first fit occurred June 12, and has had them occasionally ever since. They came on without warning. He would suddenly become giddy and become unconscious. He never bit his tongue

and was not drowsy after the attack. For several months had a discharging ear, and also complained of sciatica in the right leg and hip.

On admission his condition was as follows:

A powerfully built man whose physical examination was negative save his heart.

The pulse at the wrist was twelve, very irregular in force and frequency. The tension was high and artery thickened. Later in the day the pulse rate was forty-four and the apex beat was always the same as the pulse at the wrist. At this time, however, the venous pulse in the neck was sixty. The apex beat was in the fifth interspace and in the nipple line. There was a soft systolic murmur at the apex and a systolic murmur at the base also heard in the neck. The aortic second sound was accentuated. On the 29th the pulse at the wrist was forty-four and venous pulse sixty. While being examined he had a fit. He began to turn his head slowly and stiffly to the right; the eyes also deviated to the right. There were no clonic spasms of the head, the eyes or limbs. He was quite unconscious. The face became bluer and bluer and the respirations were quick and deep. The attack lasted thirty seconds and ended by his drawing up his legs and trying to sit up. He then suddenly regained consciousness and was not in the least confused. The next day the patient suddenly stopped breathing, became unconscious, got very blue and died.

Necropsy.—Brain meninges were very œdematous and the pia vessels were full. The brain was soft and watery. No abscess or neoplasm was found. The heart was not dilated. Lungs were congested. The left ventricle was a little hypertrophied. The mitral valve flaps were thickened and the chordae tendineae were thick and shortened. The endothelium and musculi papillares showed white fibrous patches of thickening, which were quite superficial. The heart muscle showed a few scattered patches of fibrosis not well marked.

Dr. Short bases his diagnosis on the fact that the venous pulse in the neck and the ventricular and radial pulses were asynchronous owing to the characteristic "heart block" of the Stokes-Adams syndrome. Not having at that time realized the importance of the auriculo-ventricular band of His in these cases, the author unfortunately did not submit it to microscopical examination.

Concerning the Pathology and Clinical Diagnosis of Acute Endocarditis.
(*Zur Pathologie und klinischen Diagnose der Endocarditis acuta.*)

A. SCHABERT. *St. Petersburger medicinische Wochenschrift*, 1905, No. 41.

The writer summarizes the findings of fifty autopsies in the City Hospital of Riga, Russia. Anatomically, endocarditis may be classified as verrucose or ulcerous; bacteriologically, as strepto-staphylo-pneumomy-cotica, and, clinically, as rheumatic and septic, or benign and malignant. The bacteriological classification is probably at the present time the most satisfactory on account of the possible uses of antisera, although some difficulty is presented here by the bacteriological perplexities of acute rheumatism.

The clinical diagnoses of these fifty cases were classified as follows:

In seventeen endocarditis was given as the cause of death, and in the other thirty-three cases there were certain other prominent clinical manifestations, which were given as valvular disease in nineteen, hemiplegia in three, acute nephritis and sepsis in two, tuberculosis, pneumonia, and lymphosarcoma each in one, and four patients were moribund.

There were several other prominent conditions. Oedema was present in seventy per cent., and was nearly always referred to the lower limbs. The pericardium was involved nineteen times, and in thirteen of these the condition was that of hydropericardium containing from 1,000 to 1,500 cubic centimetres of fluid. In ten per cent. fibrous pericarditis was present, and in one case was found chronic adhesive pericarditis. In sixteen cases fluid was found in the pleura in quantity from 1,000 cubic centimetres up. The peritoneum was free in all of the fifty-one cases. The exudations in the pericardium and in the pleura were generally free from bacteria, and were regarded as of bacterio-toxic origin. This suggests an analogy with the synovial exudates of acute rheumatism. In seventy-two per cent. of the cases the valves participated seventeen times in an acute inflammation, and nineteen times in a chronic condition. When one valve only was involved it was, in the majority of instances, the aortic, which was diseased twenty-one times as against five times of the mitral alone. Enlargement of the heart, for the most part, on account of hypertrophy with or without dilatation of one ventricle, was found more extensively in recurring cases than in the recent ones, and was noted altogether in thirty-one instances. Complications in the lungs assumed generally two forms; croupous pneumonia was found in eleven cases and infarcts were found in five. The croupous pneumonia was associated with the Fränkel-Weichselbaum diplococcus. Thus it appears that when pneumonia is secondary to endocarditis the microbic origin of the two conditions is not identical. Nephritis appeared in three forms: first, as diffuse nephritis, usually of hemorrhagic character; secondly, as miliary embolic nephritis, and, thirdly, as an infarct. The spleen appeared usually as an acute splenic enlargement in eighty per cent of the cases. Five cases contained two large infarcts, and one an abscess. In the liver passive congestion of mechanical origin was occasionally noted. The last organ, which is represented by a distinct lesion in endocarditis, is the brain. Hemiplegia appeared in three cases as the principal symptom. In six other cases a local lesion was found in the brain at autopsy. The blood revealed, as a rule, a high degree of anaemia. The number of red corpuscles was diminished and of the leucocytes increased. The bacteriological examination showed that streptococci predominated, sometimes mixed with staphylococci. The pneumococcus came next in point of frequency, and occasionally the pyocyaneus was found.

A review of these fifty cases of endocarditis brings into especial prominence the fact that certain clinical symptoms not definitely attributable to disease of the heart frequently predominate. The conditions in the lungs, the kidney, the spleen, the brain, and the histological and bacteriological states of the blood point to other diseases than endocarditis, but the diagnosis need not be made especially difficult on this account if the relation of these diseases to endocarditis is remembered.

PATHOLOGY AND BACTERIOLOGY

Edited by Richard Mills Pearce, M. D.

Assisted by Charles K. Winne, Jr., M. D., and Leon K. Baldauf, M. D.

*A Study of the Bacteriology of Pertussis, with Special Reference to the Agglutination of the Patient's Blood.*MARTHA WOLLSTEIN. *Journal of Experimental Medicine*, 1905, VII, 335.

Investigations upon the subject of the etiology of pertussis by means of microscopical and cultural studies of the sputum have resulted in the finding of various observers of protozoa, staphylococci, streptococci, diplococci and of bacilli. The last may be divided into three groups: First, a motile bacillus growing "colon-like" upon all ordinary media and forming endogenous spores; second, a bacillus growing as a small poled bacillus upon agar, Loeffler's serum, and gelatin, and in broth; third, an "influenza-like" bacillus growing only on haemoglobin-agar and not staining by Gram's method. The latter organism was first described by Spengler in 1897, and later by Jochman and Krause in 1901 and 1903; in the latter year they found it in sixty samples of pertussis sputum and in the lungs of twenty-three pertussis cases who died of broncho-pneumonia. It was not found in cases of ordinary broncho-pneumonia nor in sputum from other than pertussis cases. To this organism has been given the name of *B. pertussis*.

Working as a Fellow of the Rockefeller Institute for Medical Research Wollstein has studied the sputum from thirty cases of pertussis, and the agglutination reactions of the patient's blood with the bacilli isolated. After a paroxysm of coughing the sputum was obtained in a sterile receptacle and washed in several changes of sterile peptone water, after which cultures were made on haemoglobin-agar plates, made by mixing placental blood with melted agar. Smears from the sputum were strained by Gram's method and with dilute carbol fuchsin. Some cocci were found in the smears but were always much less numerous than a bacillus having all the characteristics of *B. pertussis*. From twenty-nine cases of the thirty examined a bacillus was isolated culturally which agreed in all features with Spengler's bacillus. These were short, plump, ovoid, with rounded ends and growing on the blood-agar plates as small, transparent, dew-drop like colonies not surrounded by a haemolytic zone like that found around the pneumo- and staphylo-coccus colonies. No growth took place on the ordinary media. The bacilli are not motile. Other organisms found were identified as pneumococci, streptococci in long chains, *micrococcus catarrhalis* and pseudo-diphtheria bacilli.

Agglutination tests were made with all the varieties of bacilli isolated from each case. In no instance did the Gram positive bacillus give any reaction with the serum of the child from which it was isolated. The influenza-like organisms reacted with the serum of the children in dilutions of 1:200 and occasionally in 1:500. The tests were made macroscopically with salt solution suspensions and controlled with the microscope. The reactions were always highest and most complete with homologous serum, but the various strains of the bacillus all reacted with every pertussis blood

examined in dilutions of 1:100 at least. Control tests were made with normal blood but were either negative altogether or in dilutions higher than 1:100.

The blood serum of ten pertussis cases was tested with the influenza bacillus but all gave negative reactions in dilutions higher than 1:20. In three cases in which the influenza bacillus was isolated from the sputum the blood gave a positive reaction with the *B. influenzae* in dilutions of 1:100, but reacted with the bacillus isolated from the pertussis cases in 1:20 dilution only.

Rabbits were artificially immunized and their serum reacted positively 1:500 as a maximum.

The bacilli were found with the greatest ease early in the attack, i. e., when the cough had persisted about two weeks and the whoop was just established. Two cases were examined before the whoop began, but showed no bacilli; these, however, were easily isolated at a later examination. The bacilli continued very numerous in the sputum throughout the paroxysmal stage, in several cases even when the attack was eight weeks old. In one case the bacilli were isolated once a week for seven weeks, and the child's blood reacted in a dilution of 1:100 three months after the onset of his cough. Two cases whose serum had given a positive reaction (1:200) during the paroxysmal stage did not react four months after the onset.

All animal experiments were negative as to the production of sickness or death, except emaciation ensued after repeated injection over a prolonged period of time.

A Contribution to the Study of Epidemic Cerebro-Spinal Meningitis.

WM. J. ELSER. *The Journal of Medical Research*, 1905, XIV, 89.

The writer reports the results of careful bacteriological and pathological studies based on one hundred and thirty cases of epidemic cerebro-spinal meningitis. In one hundred and nine cases a positive bacteriological diagnosis was made during life by examination of the spinal fluid either by means of cultures or stained coverslip preparations. In many instances cultures and smears had to be repeated several times before the results were positive. In five the bacteriological diagnosis was not established during life, but the *diplococcus meningitidis* was isolated in pure culture at autopsy. Of the sixteen negative cases twelve were examined but once; four were examined twice. It is probable that repeated examinations of these would have diminished the number of failures. A few of the negative cases may have been instances of tuberculous meningitis which were not so recognized. Failures were more common in cold weather which would seem to indicate that the meningococcus is extremely sensitive to cold. On the other hand in two cases the organism was isolated from bodies which had been kept on ice for forty-eight hours.

Mixed infections with other organisms were infrequent. The pneumo-

coccus together with the meningococcus was found during life in two cases, and the diagnosis of mixed infection was confirmed at autopsy. In both cases the meningococcus was the more numerous. In one case the streptococcus was found in cultures from the spinal fluid, but a second examination failed to reveal this organism. In several cases the staphylococcus albus was found in the spinal fluid but from the evidence the writer considers them as contaminating organisms and not concerned with the causation of the meningitis. In no case was any organism found in the spinal fluid when the meningococcus was absent.

As a rule the spinal fluid was examined early in the disease, but in one case the meningococcus was isolated culturally as late as the thirtieth day.

Nothing material is added to our knowledge of the morphology or biology of the organism studied, but the writer emphasizes the fact that the meningo-coccus is always promptly decolorized by the Gram method, and that at no time was chain formation ever observed. The culture medium found most reliable was a mixture of ascitic fluid, one part, and ordinary bouillon or agar, two parts, (Werthheim's media) :

The results of animal inoculations confirm those of previous investigators. The white mouse, as a rule, reacted to intraperitoneal injections, death occurring within twenty-four or forty-eight hours; subcutaneous injections were negative, and rabbits and guinea pigs were far less susceptible.

The results of the blood cultures made during life and reported by the writer are particularly interesting. For the details of this part of his work one is referred to the original article as it does not lend itself to satisfactory abstracting; the results only will be given here. Blood cultures were made of forty-one cases in which a positive bacteriological diagnosis had been made upon the spinal fluid. In these, positive results were obtained in ten cases or approximately twenty-five per cent. Many difficulties were met with in carrying out a proper technique for such cases, and the writer states that he believes that if they were successfully overcome, the invasion of the blood by the meningococcus would be found to occur more frequently than his results indicate. Though the cultures were usually made early in the disease, in one case the organism was recovered as late as the twenty-fifth day. They were usually present in small numbers. This method of examination was proven to have no diagnostic value beyond that of spinal fluid examinations. The result, however, suggests that it is of value in prognosis where the organism is found, as in only two of the ten cases did recovery occur. On the other hand failure to demonstrate the organism in the blood has no prognostic significance as negative results were obtained in seventeen fatal cases and in fourteen which recovered. In twenty-two cases cultures were made from the nose or from the nose and throat and meningococci were found in six of them. More or less characteristic Gram negative cocci were found in the majority of smears made from the nose or throat. Though usually found early in the disease, in one case the organism was cultivated from the throat as late as the twenty-third day. Though unwilling to make positive statements in regard to it, the writer believes that his results indicate a primary infection of nose or throat in these cases.

Cultures from urine, herpetic fluid and the fluid aspirated from a swollen knee-joint were in all cases negative.

The meningococcus was demonstrated in cultures or smears from the brain in every autopsy in which this organ could be examined. Pathological examination of the brain and cord did not reveal anything which has not been heretofore described. Focal hemorrhages were seen in two cases of twenty-two examined, and thrombosis of the superior longitudinal sinus in four cases.

The accessory sinuses were normal in all the cases. Slight mucopurulent rhinitis was seen in seven cases, and marked acute purulent rhinitis in only three cases. Muco-purulent or purulent bronchitis was present in fourteen cases and broncho-pneumonia in four cases. Bacteriological examination of all organs except the brain was very unsatisfactory. Though frequently seen in smears, the meningococcus was isolated only once from the nose and lungs at autopsy. The writer regards the pneumococcus or streptococcus, which were nearly always present, as being of more value than the meningococcus in causing the pulmonary complications.

Purulent otitis media was found in two cases, in one of which the meningococcus was found, and from another middle ear, which appeared normal, the organism was recovered in pure culture.

An acute sero-purulent or purulent pericarditis was found in five cases; the amount of fluid was very slight and it was practically free from fibrin. None of these cases were recognized clinically. In two of them meningococci were found. In one case small ulcers were found on the auricular surface of the mitral valve. These were regarded as mechanical erosions following small endocardial hemorrhages and are suggested as possibly the basis of chronic valvular disease in cases recovering from meningitis. Cultures from the heart's blood in five cases were sterile.

Acute nephritis was present in three cases; in one it was haemorrhagic in type. Cultures were sterile. In one case only was the organism isolated from the spleen. Cutaneous haemorrhages were seen in only a few of the autopsy cases, but haemorrhages into the serous membranes were present.

Thymus and lymphoid structures.—The findings varied considerably in different cases. The characteristic hyperplasia of status lymphaticus was present in six of the eight cases of fulminant meningitis which came to autopsy, and was most marked in the four most acute cases. The seventh and eighth cases showed extensive chronic disease of other organs which was sufficient to account for the rapidly fatal issue. The writer considers that status lymphaticus is an important factor in determining the rapidly fatal result in epidemic meningitis. As the condition was present in over one-fourth of the cases examined post mortem, he also suggests that it is an important predisposing factor in the causation of the disease in as much as the enlarged lymphoid structures, commonly present in the nasopharynx in such cases, not only facilitate the lodgement on the meningococcus in the nose and throat but also favor their entrance into the system.

During the time covered by these investigations nineteen cases of sporadic non-tuberculous meningitis were examined, of which fourteen came to autopsy. Of these, two were primary, and were both due to the pneumo-

coccus. Of the secondary cases, four were due to the same organism, six to the streptococcus, and in two the cause was undetermined. Of the five cases upon which no autopsy was held, all showed the pneumococcus in pure culture in the spinal fluid, but owing to incomplete pathological examination, it is not known whether the cases were primary or secondary meningitis.

On the Presence of Certain Bodies in the Skin and Blister Fluid From Scarlet Fever and Measles.

CYRUS W. FIELD. *The Journal of Experimental Medicine*, 1905, VII, 343.

About a year ago Mallory described certain protozoon-like bodies which he found in skin obtained at autopsy from cases of scarlet fever, but he was unable to find such bodies in skin obtained during life. More recently Duval has reported finding similar bodies in blister fluid from scarlet fever patients.

The writer details some control work along similar lines. He has examined from numerous scarlet fever and measles patients sections of skin taken both during life and after death, as well as material from cases of diphtheria which had had an antitoxin rash before death and of diseases unassociated with an eruption. His results were as follows: In sections of skin obtained after death, in all of the fifteen cases of scarlet fever Mallory bodies were found; in one of them they were found in skin removed twenty-four hours postmortem, though they were not found in skin removed from the same patient only five minutes after death. No bodies were found in the skin removed during life from twenty-four cases of scarlet fever. These bodies were found in the material from three of the four autopsies upon measles patients, but were not found in any of the fourteen measles cases during life. The specimens of skin from the antitoxin rashes and from the cases of disease without rash were negative both before and after death.

Blister fluid caused by the action of *aqua ammoniae fortior* upon the skin of eighteen patients with scarlet fever and fourteen with measles were examined; in all of the latter and fourteen of the former the bodies were found. In material from one normal individual and from seventeen cases of various cutaneous diseases, varying from eczema to smallpox and including eight cases of antitoxin rash, the bodies were found only in four of the latter, and in these the blistering fluid had been left on the skin for a much longer period than usual and the consequent irritation was more intense. The bodies were much less frequent in the material from these sources than in that from the cases of measles and scarlet fever. In the latter the bodies could be demonstrated in the fluid derived from both normal skin and that showing the eruption, but in that from normal skin longer action of the blistering fluid was necessary and the bodies were much less numerous.

The blister fluid was examined by making smears as of blood and staining by means of various of the ordinary haematological methods. A modified Hasting's stain or Giemsa's stain was ordinarily employed. In such preparations bodies of various kinds are found, but those in which the most interest centers are the ones which have the appearance of protozoa, many of them resembling closely the extra-cellular forms of the malarial parasite. These bodies which average in size from three to seven microns in diameter, have a pale blue protoplasm containing one or more granules resembling bits of chromatin in their staining reaction. Four times these granules were seen arranged about the periphery of the cell with fine lines running to the center, which gave them the appearance of a malarial rosette. In moist spreads or smears the appearance was also very suggestive of protozoa.

The origin of these bodies, or bodies indistinguishable from them, was clearly made out. Leucocytes were very numerous in the moist spreads, particularly in those made with material from the acute exanthemata. When these smears were watched in a warm chamber at thirty-seven degrees centigrade the pseudo-podia of the leucocytes were seen to break off and assume in a short time a round form, each fragment containing one or more granules, and resembling very closely individual cells. Bodies of the same nature were found in an emulsion of leucocytes in hypotonic salt solution which had been left in the thermostat for some hours. Similar appearances to the above were seen in the stained preparations, all transitions in morphology and staining reactions from normal leucocytes to the protozoon-like bodies being seen in abundance.

Fields' conclusions are in part as follows :

I believe that the bodies found in sections of skin from cases of measles and scarlet fever are part of the protoplasm of the epithelial cells which has been so changed in its chemical nature that its staining reaction differs from that of the surrounding protoplasm. The small round extra-cellular bodies found in the living patients may arise from degenerating cells, but I cannot demonstrate this origin with certainty.

It would seem that if these bodies of Mallory were protozoa they would have been found in sections from both the living and the dead skin of scarlet fever and measles, as they were found in the blister fluid. Their absence is certainly more suggestive of a degeneration than of a protozoon. This view is also borne out by the fact that they were not found immediately after death, but were present in another specimen from the same case removed twenty-four hours later.

It would seem probable also that the bodies found in the blister fluid were the products of degeneration and cytolytic activity, because they were found in the antitoxin rashes as well as in the cases of scarlet fever and measles.

It certainly cannot be stated that none of these bodies is a protozoon, but it can be positively stated that a great majority of them arise from

degenerating cells; and in many cases, I think, it is not possible to differentiate a degeneration products from protozoa by morphology and staining reactions.

The bodies found in blister fluid resemble very closely those granular bodies found in blood under certain conditions and seen in vaccine lymph and in emulsions of tissues and in exudates. I think, therefore, that they are for the most part, if not wholly, products of degenerating tissue cells and of leucocytes, and within certain limits specific to scarlet fever and measles.

The Occurrence of Bacterium Pneumoniae in the Saliva of Healthy Individuals.

W. D. FROST, C. B. DIVINE AND C. W. REINEKING. *Journal of Infectious Diseases, Supplement I, May, 1905, page 298.*

It is generally recognized that bacterium pneumoniae is found in the saliva of a considerable proportion of healthy individuals. The statement is frequently made that it occurs in one out of every five persons. But the experiments upon which these conclusions were based were made by different observers at various times of the year and under a variety of conditions; so much so that it seemed worth while to study this question and to determine independently the distribution of this germ in the saliva. The salivas of some fifty individuals were examined, and in some cases that of the same individuals at different times of the year. This was done to determine whether or not there was any variation in the seasonal distribution of the germ. The results seem to show that there is marked variation in the distribution of this germ at different seasons of the year. Other examinations have been made upon different classes of individuals at the same season of the year to note if any variation occurred which could be properly assigned to difference of occupation. Here again a variation appeared, especially when the distribution of the germ in the saliva of those employed "indoors" was compared with the distribution of the germ in the saliva of those employed "out of doors".

The authors state that they are well aware that the conclusions which might be drawn from these experiments are not conclusive, but they believe that the results obtained are of sufficient import to warrant a somewhat detailed account of the experiments and the data collected.

The presence of bacterium pneumoniae were determined exclusively by the inoculation of rabbits with two cubic centimeters of saliva intraperitoneally, as soon as possible after collection. In cases where the animals died the autopsies were performed without delay. Cover-slips of the blood from the various organs were stained by means of the Welch capsule stain. Cultures were also made of the various organs. Those cases only were counted as positive in which there developed a septicemia and in which

there was found in the blood of the rabbit, or milk subcultures therefrom, a lancet shaped diplobacillus about which a definitely stained capsule could be demonstrated.

There were eighty-five inoculations. Thirty-two or 37.6 per cent. of these gave a positive result. The saliva was obtained from fifty different individuals. Eighteen, or thirty-six per cent. of these showed the presence of the germ. The percentage of positive results obtained is higher than that reported by previous observers.

Of the fifty individuals tested, twenty-six were university students, two were high school children, six were ward school children, five were teamsters, five were outside laborers (carpenters), five were draughtsmen and one was a housewife. All were well at the time the saliva was collected and it is not known that any of them fell sick for some time afterward, so that they may fairly be considered to have been healthy at the time their saliva was examined.

One object of the inoculations, as already indicated, was to determine whether or not the season of the year had any influence on the prevalence of the germ in the saliva. The results obtained show that of the thirty examinations made in the fall, seven, or approximately twenty-four per cent. were positive; that of the thirty-five inoculations made in the winter, fifteen, or forty-three per cent. were positive, and that of the twenty inoculations in the spring, ten, or fifty per cent. were positive.

Another question of considerable importance was that of the virulence of the organism of pneumonia as it occurs in the saliva. This was judged entirely by the period elapsing between the time of inoculation and the death of the rabbits. This time has varied from twenty to one hundred hours. It would appear that the virulence of the pneumococcus is greater during the time when it is most prevalent and lower when it is less common. In other words it appears that ninety per cent. of the rabbits died within twenty-four hours in the spring, about seventy-three per cent. in the winter, and only forty-two per cent in the fall months.

Still another point of some interest was the question as to whether or not the germ persists in the same throat for some time. It was found that of the seven individuals whose saliva contained bacterium pneumoniæ in the fall, only four contained it in the winter months, and that of the twelve individuals who harbored it in the winter, eight had acquired it since the previous examination. Again only four out of the fifteen gave the same reaction at both examinations.

In regard to the influence of occupation on the presence of this organism in saliva three classes were studied: those who were indoors almost entirely, those in and out, and those who worked outside all day. For convenience they were divided into groups. One group consisting of five draftsmen, working in a machine shop, had the pneumococcus present in the saliva of all or 100 per cent. Two groups of five students harbored it in forty and sixty per cent. respectively, as also did two of five teamsters. In five laborers it did not occur. These results suggest that occupation may be a factor in accounting for the variation of the distribution of this germ in the saliva of healthy individuals.

ALBANY MEDICAL ANNALS

Original Communications

SOME POINTS IN THE DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS.

AN ADDRESS DELIVERED AT THE CENTENNIAL ANNIVERSARY OF
THE MEDICAL SOCIETY OF THE COUNTY OF RENSSELAER,
HELD AT TROY, N. Y., FEBRUARY 23, 1906.

BY LAWRASON BROWN, M. D.,

Resident Physician, Adirondack Cottage Sanatorium, Saranac Lake, N. Y.

Mr. President and Gentlemen:

It will be impossible for me to do more to-day than to touch upon a few of the most important points in the diagnosis of pulmonary tuberculosis. I shall not attempt to give you a true perspective of diagnosis as applied to this disease but shall draw largely from my own experience, and warn you of my mistakes and errors.

The diagnosis of pulmonary tuberculosis often demands all of our critical faculties. In the first place many of us, it seems to me, are not entirely unbiased when we attempt to make a diagnosis in a friend or an old patient. Many cases of pulmonary tuberculosis are overlooked simply for the reason that the examiner cannot convince himself that his friend or his patient whom he has known for years could have such a thing as tuberculosis. I know that to be true especially in physicians' families where a number of sad instances have come under my observation. The diagnosis in some of these should have been made months before it was, and I can offer no explanation but the foregoing.

There are a number of symptoms which suggest tuberculosis even to the patient. Among these are haemoptysis, cough, expectoration, loss of weight and strength, and possibly fever. If

any series of cases is gone over carefully, I think it will be found that in the majority of cases the onset was not with one of these symptoms, unless it be cough or expectoration. Haemoptysis is, in many instances, the first symptom noticed by the patient. If heart disease, or a lesion above the glottis can be excluded, haemoptysis of any quantity can, I think, in nearly every case, when it occurs in a person enjoying good health, be said to be due to pulmonary tuberculosis. At any rate, it should be taken for granted that such is the case, and the burden of proof rests on him who denies it. If coupled with a little loss of weight and strength, and possibly slight fever in the afternoon, even though there is no cough, no sputum, and no physical signs in the lungs, the diagnosis of pulmonary tuberculosis can be made almost positively. Slight expectoration, especially in the morning is, as you all know, quite common, particularly among the dwellers in the larger cities. It is surprising how often a golden rule of medical practice is overlooked; namely, that whenever a patient complains of any pulmonary or otherwise suspicious symptoms, and has any expectoration, or even if he says he has none, the examiner should insist upon his clearing his throat in the morning, and bringing him what he can. In more than one instance I have been able in this way to obtain sputum containing tubercle bacilli. One examination of sputum if negative is good for very little. It should be examined on five or six successive days, and the patient told how to collect it.

Loss of weight and strength in an adult without other explanation is also suggestive and should put us on our guard. Slight elevation of temperature in the afternoon is the first symptom in some cases. To exclude a rise of temperature, it should be taken every two hours for several days. Repeated attacks of fever with slight pulmonic symptoms are important. These are only a few of the many ways in which this disease, protean in its first manifestations, shows its presence.

In speaking of the physical signs I shall quote from a paper based on a study of 201 incipient cases at the Adirondack Cottage Sanitarium.

Absence of physical signs in the chest is no better proof that a patient has not pulmonary tuberculosis than the absence of tubercle bacilli in the sputum. Tubercle bacilli occurred in the sputum of only 71 (35%) of 201 incipient cases. Fifty-eight per cent. of these cases did not apply for admission to the sanitarium

within the first six months of illness. Auscultation is by far the most important method of physical exploration in incipient pulmonary tuberculosis. Inspection (including mensuration) and percussion seem to me of nearly equal importance. Palpation is of less value. Auscultation should be practiced before the patient is made to breathe deeply, as otherwise fine crepitation may be overlooked. In many incipient cases little or no deformity of the chest exists. In a majority of the cases the chest is well-developed, though possibly a trifle long, with a slight prominence of the clavicle on the affected side. The intercostal spaces and angle, as well as Louis' angle are in the majority of cases normal. The movement of the chest as noted by inspection is in the majority of cases restricted on the affected side. Restriction of movement on the unaffected side is by no means uncommon. Careful inspection showed a restriction of movement in ten out of eighteen cases, percussion of the bases revealed it in thirteen, radioscopy in thirteen. The lower part of the affected side shows in some cases an exaggerated movement on inspection, which may be of value in certain cases. The vocal fremitus was normal in two-thirds of the cases and was three times more apt to be increased on the affected than on the unaffected side. Direct percussion upon the clavicle has not proved of much value in these cases. Some degree of dullness may occur without change in the auscultatory signs. Krönig's method of percussion is of value in the examination of incipient cases. Percussion and radioscopy seem of nearly equal value in determining the movement of the base of the lung. Radioscopy has a distinct advantage in deep-seated lesions; percussion, possibly in "pleuritic" cases. In fourteen per cent. of 201 cases percussion was negative, while auscultation revealed some pathological signs. Prolonged expiration was present in thirty-two per cent. (in four per cent. as the only abnormal auscultatory sign). Wavy breathing was present at the site of the lesion in eleven per cent. "Wavy breathing" at the left base may be a cardio-respiratory murmur. Weakened breathing at the site of the lesions was present in ten per cent. (in one per cent. as the only abnormal auscultatory sign). Puerile breathing was present in twelve per cent., harsh breathing with loss of vesicular murmur in eight per cent. Some deficiency in the vesicular murmur was present in forty-one per cent. The vocal resonance was normal in sixty-two per cent., increased at the site of the lesion in thirty-eight per cent. Râles

occurred in seventy per cent. The following order indicates their relative frequency: fine, medium, rhonchi, mixed. Pleuritic friction occurred in but two cases (one per cent.). In these 201 cases the site of the primary lesion was most frequently above the clavicle, then in the suprascapular area and subclavicular fossa. Sixty-one per cent. occurred on the right side.

A rule of practice which I have found to stand me in good stead is that physical signs at one apex should be considered as due to tuberculosis until the contrary is proved; physical signs at one base should be considered non-tuberculous until the contrary is proved.

Tuberculin carefully administered is perfectly safe and should be used in all doubtful cases. We use it now in all cases without bacilli, to settle once for all the question of diagnosis. The agglutination phenomenon described by Arloing and Courmont with a homogeneous culture and by Koch with an emulsion of pulverized tubercle bacilli and Wright's opsonic method, have not yet afforded us much help in diagnosis.

The value of discovering a possible source of infection in a suspicious case needs only to be mentioned. The differential diagnosis of pulmonary tuberculosis from latent exophthalmic goitre, latent suppuration and other diseases cannot be gone into at this time.

Since the time of Galen dry air has been looked upon as a specific in consumption, and since Benjamin Rush, in the early part of the last century advocated horse-back riding for consumptives, it has been widely followed. However, the first logical advocate of the *fresh air* treatment was Dr. George Bodington, of Sutton Coldfield, England. Like many other discoverers, he failed, as did Dr. MacCormac after him, to force his idea on the world, and it remained for Dr. Hermann Brehmer in 1859 to demonstrate scientifically at Goerbersdorf in Silicia, Germany, the practical value of fresh air in the treatment of pulmonary tuberculosis. Among his patients was a young physician, Dr. Dettweiler, who after recovering his health, founded in another part of Germany (Falkenstein in the Taunus Mountains) a second sanatorium. He too advocated fresh air, and while his teacher Brehmer advised systematic exercise for the small heart of the consumptive (a point now not fully accepted), he laid great stress upon the rest treatment, especially at first. Both believed in a liberal diet. And so, gentlemen, you see the origin of the therapeutic

triad of pulmonary tuberculosis: fresh air, rest or regulated exercise, and good food.

The "Sanatorium treatment" is, I take it, used to indicate the treatment of patients in institutions especially adapted to meet the requirements of this therapeutic triad. To describe briefly such treatment is not an easy task and possibly the best idea can be gained from a description of the routine life of a patient. This varies slightly according to the plan (cottage or pavilion) of the institution. On admission the patient has his history taken, is examined (a general physical examination of all parts of the body, as well as of the lungs), has his temperature taken for a varying length of time, and for one week is told to rest his body, his stomach, and his mind if possible.

I might say at the outset that the best results are obtained only by individualizing the patients. Were it possible the physician in charge of the sanatorium ought to take the patient's history himself and not to relegate it to one of his assistants. This, however, is impossible for him; but he should as soon as possible come to know the mental temperament of each patient, and establish a bond of sympathy between the patient and himself. The patient has to be told and to have explained to him each detail of the treatment, and the reason for it. Patients quickly learn one from another the disastrous results of breaking rules. The sputum and urine are carefully examined and reexamined repeatedly if necessary. Every patient should be kept for at least a week, not in bed necessarily, but at rest on a couch or in a good reclining chair. At the end of such a period the history and the results of all examinations are carefully gone over, and the proper amount of food, exercise and rest prescribed. There are, it seems to me, four contra-indications to exercise: elevated temperature, rapid pulse, loss of weight, and blood in the sputum. I use a little card which will fit in the waistcoat pocket and be at hand for ready reference. On it is printed the following:

RULES FOR EXERCISE.

(Exercise means walking. Special permission must be obtained before indulging in other forms of exercise.)

None for one week. then ask about it.

None if feverish.

None if blood in sputum.

None if loss of weight.

None if fast pulse.
 Never get out of breath.
 Never get tired.
 Never run.
 Never lift heavy weights.
 No mountain climbing.
 GO SLOW.

Exercise regularly and systematically whether rain or shine.
 Walk uphill at the start so as to come down hill on return.
 Remember always that you will have to return.
 Rest one-half hour before and after meals.

The reverse side contains only the patient's name and is left blank below for special directions. I have found that I have obtained the best results when I carefully prescribed the time to be devoted to exercise and not the distance. Some patients will, as I shall point out later, take advantage of you in either case. Ten minutes at first in the morning, then ten minutes both morning and afternoon which should be carefully increased to one-half hour morning and afternoon is sufficient for some months. Too little exercise when the disease is fully arrested and especially when the patient purposes returning to work is a mistake often made in health resorts. To plunge into the "strenuous life" from one of ease and rest is disastrous to many so-called "cures." No hard and fast rules can be drawn in regard to what exercise some patients can stand. It is unwise to predict a speedy demise for all patients who indulge in over-exercise. I recall well a strapping youth of twenty, who one afternoon occupied the pitcher's box for a local base-ball team. He seemed none the worse for it, but after a little "heart to heart" talk he promised to be more cautious. I have heard recently, however, that his good resolutions waned last summer, and he pitched professional base-ball and enjoyed good health. Such cases I believe, however, to be very exceptional. Lawn tennis is in most sanatoriums prohibited, as well as bowling and all sports that involve active use of the thoracic muscles, or that are apt to raise the blood pressure.

I have dwelt so fully upon exercise and rest, as it seems to me to be the phase of the modern treatment of pulmonary tuberculosis that is least understood.

That good pure air is requisite every minute of the twenty-four hours is now well established. But let me insist upon one point: no structure that needs to be ventilated is as good as an

open verandah. For this reason all rooms, tents and shacks are inferior to a good verandah for sitting or sleeping out. Sleeping out of doors bids fair now to be overdone in some cases. It does not agree with all patients, and is not necessary if the patient spends eight to ten hours a day in the open, and sleeps in a well-ventilated room. I feel, however, very strongly about the question of sleeping out for patients, who returning home, are forced to work indoors all day. For these I believe it is almost a *sine qua non* of health, and should be followed if at all possible.

The third important factor is the diet, which as I said before should be liberal. Many state institutions will run aground upon the shoal of too great economy in the kitchen. A sanatorium cannot be properly maintained at the cost per capita of a hospital for the insane.

I shall dismiss this subject with a resumé of the diet in detail for a day:

A glass of milk before rising. If the cough is severe or distressing, a teaspoonful of whiskey in a glass of hot milk may be substituted, or if milk cannot be taken, a cup of very hot water with ten to twenty drops of aromatic spirit of ammonium and a pinch of table salt and cooking soda. This will greatly facilitate morning expectoration. For breakfast one or two eggs, chops or steak with a little broiled bacon, bread and considerable butter, one or two glasses of milk and a cup of coffee or tea.

If necessary a glass of milk or raw egg one and one-half to two hours after breakfast. A cup of hot water one hour before dinner is advisable for many patients.

Dinner five hours after breakfast: soup, thickened (purée) or tasty bouillon or broth; fish or oysters, rare roast beef, mutton, turkey, chicken, and occasionally if preferred, ham, pork, duck, or a little goose; fresh vegetables in abundance and variety; salads. Sauces should be prepared with much butter. Puddings (milk, etc.), jellies, ice-cream, simple cake. One or two glasses of milk at the end of the meal. Demi-tasse coffee. Bread and butter.

If necessary a glass of milk with or without a raw egg one and one-half to two hours after meals. A cup of hot water one hour before supper.

Supper five hours after dinner: cold roast beef, mutton, chicken, occasionally ham; one course of hot meat with vegetables or eggs; bread, butter, tea, cocoa, milk (one or two glasses), jam or fruit (fresh or preserved).

A glass of milk or an egg at bed-time.

A glass of milk or an egg during the night if necessary.

(Only the best butter should be used for cooking as well as at table.)

In other words, a good general diet, with as much variety as possible, is best.

While for the majority of patients no farther treatment is necessary, some will, however, tax your ingenuity and skill to the utmost. How long a febrile case should be kept in bed out of doors if his temperature shows no signs of lessening, how anti-pyretics should be used, if they are to be used at all, how to treat the various complications that arise, and how to manage neurotic cases, are only a few of the many problems to be decided every day. I have often been tempted to change the old adage, "*Mens sana in corpore sano*," to "*Corpus sanum propter mentem sanam*." For this reason it seems to me most important to afford patients who are well enough some light work or amusement in the open air. We have tried to meet this need at the Adirondack Cottage Sanitarium by establishing one year ago a workshop where, under very competent and inspiring teachers, patients are taught book-binding, illuminating in the manner of the monks of old, wood carving, and photography. We hope soon to add stenography and telegraphy, for these pursuits can often be followed in well ventilated rooms.

Realizing the value of an outdoor hobby, especially for those who return to their former and in most instances, indoor occupations, a bird club was organized, and the pleasure it has given many patients has well repaid us. Its chief value lies, however, it seems to me, in tempting patients after they leave the sanatorium into the woods and fields, nature's great laboratory. Botany is of equal value.

I have briefly mentioned how one patient teaches another, but the educational advantages of the sanatorium are great. The patient has impressed upon him the importance of good hygienic living, and before he leaves it should have become a habit. I frequently tell patients to cultivate an outdoor conscience, a conscience that reproaches them as soon as they cross the threshold. In fact I feel so strongly upon this whole subject, that when a patient asks me if he is going to get well I reply that it is in his hands; which we are willing to support until the going down of the sun as did Aaron and Hur for Moses while Joshua

was struggling for another sort of an existence. I believe, however, that patients can be watched and guided so carefully every minute of the day that when they leave the sanatorium they are, in some instances at least, ill-fitted to resist the temptations that are ever present. This danger should be pointed out to them, and they should be encouraged, as I said before, to form ingrained habits of hygienic living. A reception pavilion or cottage should be set apart where new patients can be under the constant supervision of a nurse and have carefully demonstrated to them all the necessary details for a certain fixed period of time. I say a "certain fixed period" advisedly, for I am thoroughly convinced that talk as you will, in season and out of season, indoors and out of doors, you cannot inculcate the rules of proper living, of proper care into some patients, you cannot give them either patience, imagination or common sense, three essentials to recovery from pulmonary tuberculosis. When this fact has been demonstrated sufficiently often, you will do well to concentrate your energies elsewhere and allow the weakling to choose his own wavering course. The care of the mouth, of the teeth, of the bowels, the use of cold water, sprays, sponges, or plunges each morning, and one or two hot baths a week, should all be fully explained to the patients in a series of informal talks by the medical staff. Over two years ago I ventured a little off the beaten track, and tried the experiment of a little monthly paper which would replace such talks. Some of you have no doubt seen our little journal which seems to have met with considerable success.

This will, I trust, give you some idea of the treatment of pulmonary tuberculosis as it is carried on in sanatoriums today. To discuss intelligently the treatment of the many symptoms and complications that may arise in the course of pulmonary tuberculosis would lead us into too great detail. I shall not attempt it, but would like to draw your attention for a few moments to the consideration of the treatment of pulmonary haemorrhage. The treatment of this symptom or accident is at present most unsatisfactory. It is indeed fortunate that most haemoptyses cease of themselves and this too in spite of the treatment employed. Haemoptysis may be controlled by increasing the coagulability of the blood, by lessening the rapidity of its flow, by reducing the volume of blood in a given part, by lowering the blood pressure or by constricting the affected vessel, which may act in

one of the several ways heretofore mentioned. When the pathology of the pulmonary lesion is considered any attempt to change the calibre of the affected vessel, often an aneurysmal dilation of a branch of the pulmonary artery, when this is considered it seems to me, its futility at once becomes apparent. Attempts to decrease the coagulation time have not met with marked success. Calcium chloride, so warmly recommended by Wright, has not given me any very satisfactory results in this condition, and Dr. Boggs of the Johns Hopkins, has told me he has failed to verify some of Wright's experiments along this line. Turpentine has been extensively employed and some praise it highly, but so little scientific work has been done with it in haemoptyses that I have used it but little. To lessen the rapidity of the flow is of less importance than to equalize it and this leads me to consider what seems to me the most important factor in the treatment of haemoptysis, *i. e.*, the pulmonary blood pressure. Professor Wm. H. Howell (of the Johns Hopkins) tells me that the estimation of the pulmonary blood pressure presents many difficulties. Many contradictory results have been obtained and the end is not yet. Vaso-motor nerves in these vessels have yet to be satisfactorily demonstrated. As far as we can see today the estimation of the pulmonary blood pressure depends chiefly, *ceteris paribus*, upon the amount of blood supplied to the right auricle, that is it is concerned mainly if not entirely with mechanical factors. To regulate the pulmonary blood pressure it is then necessary to control the blood supply to the right side of the heart. Venous stasis or dilatation of the peripheral capillaries and splanchnic area is the quickest way to accomplish this.

Haemoptysis in many cases seems to be directly connected with a sudden increase in the blood pressure. A single act of over exertion, a violent paroxysm of coughing, mental excitement, violent emotion, all are direct factors in the etiology of haemoptysis. In this connection the frequent recurrence of haemoptysis in the early morning hours when as the night wanes consciousness returns wholly or in part is suggestive. Professor Howell in his recent published work on physiology has expounded a theory of sleep which seems to me to explain these matutinal haemoptyses. By use of the plethymograph he has demonstrated a peripheral dilatation of the vessels during sleep, due he thinks to the fatigue of the vaso-constrictor centers in the

medulla and the consequent loss of tone of the peripheral vessels, thus leading to cerebral anaemia. However this may be the fact is that a dilatation of these vessels occurs during sleep, more pronounced during deep slumber, and marked by many sudden oscillations as consciousness gradually returns. An even pressure in the pulmonary vessels although high seems to me to be of less danger to the patient than any sudden increase. For these reasons haemoptysis is often apt to recur in the early morning hours; the patient awakes spitting blood.

To dwell upon the need for absolute rest in a semi-recumbent position is, I am sure, unnecessary. For the reasons mentioned the utmost calm and quiet should be preserved. No whispering should be permitted and even the most serious haemoptysis should be treated apparently as the most casual occurrence. I will not mention the long list of remedies, suspicious in itself, that have been recommended, nor have I time to recount even all the possible complications and their treatment, but I will outline for you what seems to me the most rational procedure in the treatment of haemoptysis. The patient having been gotten to bed and quieted, his clothes may be removed. One of our German confrères has related an instance where a patient put to bed for haemoptysis was found at the end of two weeks still to have his shoes on. Possibly, though it is not so stated, his attendants wished to take no chances about his dying with his boots on. Slight haemoptysis, besides rest in bed, restriction of the diet for a few days and codeine (gr. $\frac{1}{4}$ q. 4 h.), needs little treatment. Severe and repeated haemoptysis calls for the greatest care. The patient should be in the semi-recumbent position. The windows should be fully opened but the temperature of the room not allowed to fall too low. Small doses of salts should be given every morning. The diet should include nothing hot, no tea or coffee, and the fluids should be reduced to a minimum. In other words, the patient should be treated for aneurysm. The blood pressure may be lowered by Esmarch bandages about the limbs, three only being tied off at one time and changed every twenty minutes. The circulation should be equalized by morphine hypodermically (gr. $\frac{1}{8}$ q. 4 h.), but the best means that we now possess for controlling the blood pressure lies in the nitrites. Amyl nitrite should be administered at once in the case of a severe haemoptysis, a second pearl of three minims be given in two or three minutes if necessary.

This can be frequently repeated and it can be put in the hands of the patient himself. The effect of this drug, strongly recommended by Hare of Australia, is very evanescent and in some cases cannot on account of the profuse bleeding be inhaled. For this reason nitroglycerin, long used by Flick, is under such circumstances to be preferred. In severe haemoptyses, however, it is always advisable to administer drugs hypodermically. Consequently nitroglycerin tablets hypodermically, if known to be reliable, are to be preferred to the spiritus glycerylis nitratis by mouth. Sodium nitrite is much more stable, less likely to be followed by untoward symptoms and while slightly less powerful is a trifle more prolonged in its action than nitroglycerin. It can be given hypodermically in one grain doses and it is often wise to administer it with the morphine, just after the amyl nitrite. The danger of these drugs, however, lies in the fact that the blood pressure may be reduced to too low a level and it needs to be carefully watched. In recent cases I have kept upon the patient's arm the cuff of the sphygmo-manometer and taken frequent readings. An intelligent nurse may soon be taught to take careful observations. By these means the pressure may be kept between certain levels and sodium nitrite administered only when the upper limit is exceeded. The cuff may further be used as a tourniquet, if necessary, and seems to cause the patient little or no discomfort. Since I have used this treatment of haemoptysis I have had but few opportunities to test its value and no treatment of haemoptysis can be said to be of value until it has been tried in a large number of cases. It has but one recommendation, it seems to be a little less empirical than many methods of treatment heretofore advocated and followed. One word more and I am through with this subject. To prevent the matutinal recurrences of haemoptysis, I have given a dose of morphine and sodium nitrite a few hours before the usual recurrence in the morning and it has seemed of benefit in some cases.

I should like to speak to you of nightsweats, and their treatment, of pleurisy, of cough, of expectoration, at times so harrassing and distressing, and of much else. But I must hasten to say a word or two of the results of treatment in pulmonary tuberculosis and I shall use the results at the Adirondack Cottage Sanatorium as my text.

At the last meeting of the National Association for the Study

and Prevention of Tuberculosis various definitions were adopted which it was hoped would do away with much confusion. An incipient case of pulmonary tuberculosis was defined as follows: "Slight initial lesion in the form of infiltration limited to the apex or a small part of one lobe. No tuberculous complications. Slight or no constitutional symptoms (particularly including gastric or intestinal disturbances or rapid loss of weight). Slight or no elevation of temperature or acceleration of the pulse at any time during the twenty-four hours especially after rest. Expectoration usually small in amount or absent. Tubercle bacilli may be present or absent." This definition as is readily seen does not define early pulmonary tuberculosis, as many patients may present all the symptoms mentioned, and if the sputum show no tubercle bacilli would only suggest pulmonary tuberculosis. But if a diagnosis of pulmonary tuberculosis has been made then the definition defines the early or first stage. I would like to emphasize the importance of recognizing the disease in this early or latent stage, but I would also urge care and caution in the diagnosis. It is in these doubtful cases that tuberculin is of especial value and no one has today to condemn a patient to the "cure" for pulmonary tuberculosis without establishing beyond all cavil the diagnosis. I say this advisedly, as three cases have been admitted to the sanitarium in the last year with a diagnosis of pulmonary tuberculosis who later were proved to be free from it. As the proper treatment of pulmonary tuberculosis consists not only in a six months residence at a health resort or sanatorium, this indeed being but the beginning, the probation of the patient, but to be effective must extend over five or six years, the first six to twelve months of which should be spent at a sanatorium if possible and the remainder of the time in a most carefully regulated life at home. Work need not be forbidden, but riotous living and overwork should be shunned if our patient is not to prove once more that pulmonary tuberculosis is a disease of a relapsing nature. This I am more and more surely convinced is the weak spot of the present methods of combatting pulmonary tuberculosis. The care of these patients and getting suitable employment for them is the important work for your anti-tuberculosis societies. Take care of the returning patient and you will greatly reduce your mortality from pulmonary tuberculosis.

"Advanced" cases, as you will see from the foregoing, may be

cases with very slight pulmonic and constitutional involvement, but who unfortunately suffer from some tuberculous complication, such as laryngitis, adenitis, or otitis. This class is a broad one and some include in it cases in whom, without constitutional disturbance, the disease has advanced to cavitation of a limited extent. Many advanced cases do remarkably well, and compose the larger number of patients. It is difficult to subdivide them and in regard to the results obtained by treatment these cases should be called "questionable."

"Far advanced" (or unfavorable) cases are those with severe constitutional disturbances, or extensive ulceration or fibrosis, or as usually happens, with both.

In classifying results five classes are usually employed, "progressive or unimproved," "improved," "arrested," "apparently cured," and "cured." "Progressive or improved" is self-explanatory. "Improved" should mean more than the gain of a few pounds in weight and a little tan on the cheek. To come under this class the patient must have his constitutional symptoms lessened or entirely absent; his physical signs improved or unchanged. Cough and expectoration with bacilli are usually still present.

A case is usually said to be "arrested" when all constitutional symptoms have been absent for two months. The cough and expectoration with or without bacilli may be present, and the physical signs stationary or retrogressive.

"Apparently cured" indicates those patients who for three months have lost all constitutional symptoms and bacilli and in whom the physical signs, if present, indicate a healed lesion. When this condition exists for a period of two years under the ordinary conditions of life, the patient is said to be "cured."

For some years a vast literature has been accumulating in regard to the curability of consumption and the results of the sanatorium treatment. That pulmonary tuberculosis can be cured is an established fact, but he who thinks he can always tell what case is going to recover and what case fail can be sure of but one thing, that is, his percentage of error will be large. No one believes more fully than I in the curability of pulmonary tuberculosis, but I must confess that I can not take the roseate view of this subject that some profess. One of the leading physicians in New York City said to me some time ago: "What I would like to see you do in Saranac Lake is to cure advanced

cases. Anybody can cure an incipient case." So the pendulum has swung, as it always does, too far, and passed the golden mean. It is an easy thing, it is true, to get many patients into a condition of perfect health as far as outward conditions reveal it. But it is another task to get them into such condition that they can maintain good health when they return to their old employment as many do. In other words, the statistics on discharge have to be taken in connection with the results after a few years, after the inexorable test of time has been applied. From its opening in 1885 to the end of 1901, there were admitted to the Adirondack Cottage Sanatorium 1,542 patients, 765 males, and 777 females. All cases in which the diagnosis was doubtful, and all patients whose stay in the sanatorium was less than a month, have been omitted. In 1902 an attempt was made to find out the condition at that time of all those who had been patients, and to establish a system of following up old patients once a year in future. This effort was so far successful that in 1903, on the anniversary of their respective discharges, 1,157 of the 1,542 were traced, only 385 being untraced. Of the traced cases 590 (fifty-one per cent.) were found to be alive two to eighteen years after discharge. To determine more exactly what these figures meant, we compared according to age and sex the number of patients who should be alive with those who were actually alive and obtained the following results:

Of those discharged apparently cured, ninety-three per cent. of the expected living are alive; of the disease arrested, sixty-five per cent.; of the cases discharged with active symptoms, twenty-three per cent. The death rate among the apparently cured patients is during the first ten years about three times the ordinary death rate. The death rate among the patients discharged with the disease arrested increases during the first few years to many times (ten to fifteen) times the normal death rate, but afterwards decreases. Nearly half of the patients discharged with an active disease, died in the first two years. Patients between thirty and forty, when discharged apparently cured, seem to relapse less than younger patients. This tendency is little if at all marked among the patients discharged with the disease arrested. Incipient cases seem to relapse less than advanced, when both were discharged in the same condition.

In conclusion I wish to thank you for your indulgence and to emphasize and to leave with you several points: (1) Think no

one immune from tuberculosis. (2) Bear in mind that symptoms may develop before physical signs and physical signs before symptoms. (3) Establish firmly the diagnosis, but do it in as few days as possible. (4) Tell your patient what is wrong with him. (5) Impress sufficiently often the dangers of over exercise and the great length of time that must elapse before he is secure. If you will do this, you will find, I am sure, that in one disease at least, experience will be less fallacious and judgment less difficult.

HISTORY OF THE MEDICAL SOCIETY OF THE COUNTY OF RENSSELAER, NEW YORK.

Abstract of the Address Delivered at the Centennial Anniversary of the Society, at Troy, N. Y., February 22, 1906.

By REED BROCKWAY BONTECUE, M. D.

Historian of the Society.

The Medical Society of the County of Rensselaer was organized July first, 1806, approximately three months after the enactment of an act by the State Legislature "to incorporate medical societies for the purpose of regulating the Practice of Physic and Surgery in this State," passed on April 4th, 1806.

The records state that "Physicians and surgeons to the number of twenty convened at the Court House at Troy and proceeded by ballot to elect their officers, who were as follows: president, Benjamin Woodward; vice-president, John Loudon; treasurer, Samuel Gale; secretary, I. M. Wells." Committees were at once formed to draft by-laws, and so briefly the society came into existence.

The early records of the society were completely destroyed by fire in 1820, so that nothing is known of its proceedings up to that time. The society remained active, however, and manifested considerable interest in regulating the practice of medicine. Thus in 1825 a committee was formed to urge the legislature to correct the present method of granting degrees and licenses, and recommended that no member of the society should recognize or hold intercourse with those not complying with the law. It decided that an honorary degree should not entitle any man to practice medicine.

In 1839 the society resolved that the present term of study for medical students, established by statute, was too short, and urged that it be lengthened one year. A petition to legalize public dissection for the teaching and study of anatomy was circulated through the state and was received in Rensselaer county in 1844. The petition received the endorsement of the County society and was forwarded to the legislature.

In 1850 the question of preliminary education came up at the meeting of the State society, which recommended that a knowledge of Latin and Greek should be included in the requirements. Subsequently a committee was formed in Rensselaer county to examine all those commencing the study of medicine.

The code of ethics recommended by the American Medical Association was adopted in 1853 "it having been reported that some of the members had been in the habit of consulting with homeopaths and other quacks and calling them in consultation."

The society in 1874 sent members to confer with the members of the legislature from this county and to urge them to prevent the repeal of the law permitting experiments on living animals as "vivisection is indispensable for scientific investigations."

In the early records of the society one reads numerous references to the Thompsonians and homeopaths. The practice of the former is termed in the records "a form of quackery started in England by one Dr. Thompson and his followers. Their popularity was built on the fact that many people had been injured by mercurial and other metallic and mineral poisons, and they claimed to use only remedies of a vegetable nature, such as roots and herbs." Dr. Bontecue describes one of these Thompsonians who practiced in Troy, named Dr. Coffin, a very tall, slim man with a very pale face and pale, high-crowned hat like that worn by the cartoons of Uncle Jonathan. He carried a huge cane with an ivory knob on it and a carpet bag for his remedies and a big pewter syringe. "I was very ill at the time with scarlet fever and a big swelling in my neck, and this Dr. Coffin doctored me two or three times a day for several days, using each time his big pewter syringe with hot butternut tea in my bowels. This gave me such a severe colic that my parents became alarmed and changed for Dr. Skilton, who came and soon relieved me by cutting my throat."

Dr. Blatchford, president of the society in 1842, was a very

aggressive opponent of the homeopathists, and in his annual address he chose for his subject homeopathy of the present day. He received the thanks of the society for this, and five hundred copies were ordered printed for distribution. Shortly afterward he delivered a public address at the county court house exposing the "absurdities of homeopathy."

In 1850 the advent of cholera was discussed at a meeting of the society, and Dr. Cook and Dr. Bryan declared it could only be learned by a faithful study of homeopathy, and declared themselves firm believers in the doctrine. "These two members had been suspected of disloyalty to the regular profession, but this public declaration was like an explosion which startled its members."

At the following meeting a memorial resolution in relation to the homeopathic members was passed. The papers and addresses delivered at the meetings were generally confined to the report of rare or unusual cases, or to questions relating to public health. Among the unusual cases reported are a few that are very interesting and worthy of mention.

Dr. Hubbard cites a case of an insane woman in 1871 who cut out two feet of her transverse colon and lived for three years after. The intestines not having been repaired, the sinus formed between the divided ends carried on the function of the lost intestine.

Dr. Bontecue describes an accident that happened to Dr. Amatus Robbins in which the doctor was thrown from his sleigh and struck his head against a hitching post in such a way that "the entire scalp was torn clean from the cranium from occipital to frontal bone." Dr. B. writes: "I put him in my sleigh and carried him to his house and replaced the scalp by a continuous suture reaching from ear to ear. He was unconscious during the operation, but soon revived, and recovered without any suppuration, the wound healing by first intention."

Dr. McClellan reported and published in the *Medical and Physical Journal*, Vol. II, a remarkable case of self-performed Caesarean section. The case is so unique that his report is given in full:

"In the afternoon of January 29, 1822, I was called in consultation with Dr. Bassett of Nassau in the case of a servant girl. I immediately repaired to the house where she was employed, and found the patient to be a girl 14 years old, one fourth black; she had a firm pulse and little

or no pain. Dr. Bassett told me she had a wound of the abdomen from which he had extracted a full grown fœtus that was in part protruded together with a considerable portion of the intestines. The placenta, having two umbilical cords, he had removed from the same wound, and he had introduced his hand to the uterus per vaginam. On examination I found an irregular incision about four inches in length, about two inches above the umbilicus, and another incision about two inches in length at nearly right angles to the former towards the sternum. The lower part of the abdomen was considerably distended with blood, and our attempts were in the first place directed to the evacuation of the blood, which was partly effected by a change of posture and slight compression. We then brought the edges of the wound together by interrupted sutures, dressed it with lint spread with emollient ointment, and secured the whole with a broad bandage, and after administering an anodyne, left her for the night. I did not see her again, but the Doctor informed me that she never had any violent symptoms. The second day he bled her and gave a cathartic and pursued the antiphlogistic regimen a few days when the febrile excitement subsided. An ordinary use of tonics was then resorted to, and in a few weeks the patient was perfectly recovered.

"The circumstances attendant on the infliction of this wound were these: While the family were at dinner the girl went about fifty rods from the house, placed herself on a snow drift near a fence, where she was first discovered by her master in the act of covering something with snow, which afterward proved to be a naked child. As soon as she perceived that she was observed, she immediately ran to the house with the second child hanging out of the wound together with a considerable portion of her intestines. Lying beside her was a razor and a large needle, which were the instruments she had previously prepared for the operation. I should judge from the appearance on the snow, there being several places where she had stopped, that the incision was made immediately preceding the rupture of the membranes, and that the first child was delivered *per vias naturales*, the third pain after rupture."

In 1865 the society called a special meeting to hear an address delivered by Dr. Morton, the discoverer of ether anaesthesia. He gave an interesting narrative of its first use and the trouble he had had in introducing its use into hospitals. The Government had failed to grant him any compensation for his work, and the society appointed a committee to arrange a plan for assisting the Morton fund.

Among the four hundred physicians who have been members of the society are many who acquired considerable distinction in the profession, and a short biographical sketch of each one is found in the complete history of the society. It will be only possible to mention here a few of those most prominent:

Dr. MOSES HALB, one of the earlier practitioners, was better known in Troy and vicinity than any other physician of his time. Born in 1780,

he began practice in 1804, and did all the surgical work in Troy up to the time of his death in 1837. He was one of the incorporators of the Troy Lyceum of Natural History, the first of its kind in this country. He also helped to establish the Rensselaer School, now the Rensselaer Polytechnic Institute, and was its secretary at the time of his death.

Dr. THOMAS W. BLATCHFORD was born in 1794, and received his medical education at Guy's and St. Thomas's Hospitals in London, and at the College of Physicians and Surgeons in New York. He began his practice in 1828, and soon acquired a large practice. He had the respect and confidence of the community, and held many positions of trust, serving as President of the Board of Education, Trustee of the Rensselaer Polytechnic Institute and Troy Female Seminary. He was elected and held the office of President of the State Medical Society. He possessed considerable literary ability, and wrote several excellent essays, some of which are still in print. He died in 1866.

Dr. THOMAS C. BRINSMADE, the son of a prominent physician in Litchfield county, Connecticut, attended lectures at the Yale Medical School, and was licensed to practice in 1823. An honorary degree of M. D. was conferred on him by Yale College in 1857. He began his practice in 1832, and continued with a success never excelled for thirty-five years. He was elected President of the State society in 1848 and 1849, and was Health Officer of Troy for some years. Later he became President of the Rensselaer Polytechnic Institute, and while addressing an audience in behalf of the Institute in Athaneum Hall, suddenly died at the age of 66. He is described as having a presence at once pleasing and assuring, and was generous to a fault, giving for benevolent purposes more money during his life than he left at his death.

Dr. WILLIAM P. SEYMOUR, born at Troy in 1825, received his preliminary training at Williams College and his professional education at the University of Pennsylvania. He began practice in Troy in 1849. When the cholera prevailed in New York city he went with Dr. Bontecue to study the disease in the hospitals and the methods of treatment in use there. He is spoken of as a close student, becoming the best read and most learned of the profession. He held the Professorship of *Materia Medica* and Therapeutics in Castleton Medical College and in the Berkshire Medical College, and was Professor of Gynecology in the Albany Medical College from 1873 to 1875. Besides being a member of the State society and association, he was a member of the Association for the Advancement of Science. In many of his views he is said to have been in advance of his profession by a generation. In 1857, during an attack of typhlitis, now known as appendicitis, he charged his physician to open his abdomen and remove the appendix should it recur. He ever afterward advocated this procedure in his lectures. He died in 1893, conscious to the last, and when about to take his last breath, drew with his own hands the sheet over his head and expired serenely.

[Dr. REED BROCKWAY BONTECUE, who has so carefully prepared the history of the society, from which this sketch has been drawn, is still an active and enthusiastic member of the society and its treasurer at the present time. He began the study of medicine in 1842 under Dr. A. G.

Skilton, Dr. Thomas C. Brinsmade and Dr. John Wright in Troy, and later attended lectures at the Medical Department of the University of the City of New York and at the Castleton Medical College in Vermont, receiving from this institution his M. D. degree in 1847. He made a voyage up the Amazon river in 1846 with Dr. Brinsmade, and explored this region in the interests of science for more than a year. He served as surgeon during the civil war, being present at the fight between the Monitor and Merrimac, the capture of Yorktown and the ironclad attack on Fort Sumter. He had charge of the Hygeia United States General Hospital at Fortress Munroe and the Harewood United States General Hospital at Washington. At the close of the war he was brevetted lieutenant-colonel of volunteers, March 13, 1865, for faithful and meritorious services during the war.

Dr. Bontecue then returned to Troy and resumed his private practice. He has been a member of this society since 1849, and was its President in 1891 and 1892. In addition to being a member of the State medical bodies he is a member of the American Medical Association and the American Surgical Association. In his early practice his work was mostly in general medicine, but later he devoted his time more to surgery, and for many years was the foremost surgeon in Troy. He has contributed extensively to the improvement and advancement of his profession. He originated and practiced the application of photography to military surgery, and devised a provisional wound dressing for military service to be carried in the soldier's pocket. He was also one of the largest contributors to the Surgical History of the War and to the Army Medical Museum. In a resumé of the operations on the larger joints in the Transactions of the American Medical Association of 1876, Dr. Bontecue's work is frequently referred to. He performed what is believed to be the first operation in this country for the repair of the intestine for perforation in typhoid fever. Dr. Bontecue is still in active practice in Troy, much respected and revered by his colleagues, who recently tendered him a banquet in honor of his fifty-sixth year as a member of the county society.

H. W. CAREY.]

In looking back over the lives of the physicians who have been prominent in the profession in Rensselaer county, one is struck with the large number of them that were interested in Natural History. Perhaps the greater number were interested in Botany and Geology. Dr. John Wright was Professor of Natural History at the Rensselaer Polytechnic Institute, Dr. Skilton was an enthusiastic botanist, and Dr. Camp is said to have been as familiar with the fauna of this country as any man of his day. Many others were botanists, and in seeking some explanation for the popularity of this branch of natural science it seems probable that the study of materia medica in the early days required more intimate knowledge of plants and herbs than now.

Among the physicians who received political distinction are Dr. James Thorn and Dr. Alfred Wotkyns. Both were elected and served as Mayor of Troy during their period of active practice, a precedent which shows that in those days the physician was neither too busy nor too indifferent to interest himself in the government of his community.

THE FLAT-FOOT SERIES OF DISABILITIES AND DEFORMITIES OF THE FOOT.

Read at the January, 1906, meeting of The Medical Association of Troy and Vicinity.

BY J. M. BERRY, M. D.

TROY, N. Y.

The term "flat-foot" is often used ambiguously, but when properly applied it signifies but one phase of a progressive disability and deformity. At present there is no one term that can be employed to designate the flat-foot series. The various phases are distinct and yet they bear such a close relation, the one to the other, that for a clear understanding they should be studied collectively. Clinically at one end of the series is the disability known as pronated foot, while at the other end of the series is the deformity of rigid flat-foot.

VARIETIES.

Numerous conditions of disability and deformity associated with flat-foot have been described and considerable confusion has resulted from the fact that different terms have been employed in describing the same condition. Following is an incomplete list of the terms used to designate the various phases of the flat-foot series. There are: Weak foot, splay foot, abducted foot, weak ankle, knock ankle, pes valgus, pes planus, medio-tarsal valgus, flat-foot, rigid flat-foot, etc. No attempt will be made to describe all these varying conditions or to tell wherein they differ.

The condition of true flat-foot is a deformity. In other words, a condition of flat-foot is not reached until the foot is actually deformed. There are two main divisions of flat-foot; the congenital and the acquired. Congenital flat-foot is in reality a form

of club-foot. Paralytic flat-foot and traumatic flat-foot are in classes by themselves and will not be considered in this paper.

Preceding deformity of the foot there is a weakening at the ankle joint and the instep culminating in a lowering of the arches. The old term of weak ankles, used to designate this condition, has given place to that of pronated foot.

Following flat-foot and developing out of it is a deformity known as rigid flat-foot.

A typical case may go through a regular sequence of pronated foot, weakened arch, flat-foot and rigid flat-foot. Mention should be made of the intimate association which exists between Hallux valgus, Monton's toe and flat-foot.

CONSIDERATION OF THE FOOT.

The anatomy of the foot in its relation to flat-foot and the study of the various joints and arches and their muscular and ligamentous supports is too complicated a subject to be treated in this paper. The foot serves as a passive support to the body and as an active lever to raise and propel it: as a consequence its structure is such as to adapt it for weight bearing and at the same time allow of considerable motion. Normally there is an appreciable degree of voluntary muscular control present in the foot. The effect of training is shown in the performances of "armless wonders." Bradford has written an interesting article on "The Arboreal Trails of the Human Foot," in which he discusses various movements present and states that in new born infants there is a slight grasping action. As the child grows and the effect of modern foot wear becomes manifest, many of the movements of the foot are lost. Whitman calls attention to the fact that changes of contour occur under weight and use and that this is the effect of normal motion in the joints and not overstretching of ligaments and fascia.

For purposes of illustration, the foot can be considered as a mechanism: part of the mechanism of the body, which under certain conditions is best adapted for work and when these conditions are not present or are altered the mechanism suffers and its work is interfered with.

ETIOLOGY.

The conditions of pronated foot and flat-foot are two of the most common afflictions of modern times. The sale of flat-foot

braces in all drug stores, shoe stores, leather stores, etc., is an excellent index of the prevalence of this trouble. All ages are affected, but it is more common at puberty and in later life when all the bodily activities are on the decline. The female sex is more affected than the male. Lovett in an observation of 500 nurses found that sixty-four per cent. of flat-foot cases appeared in the months of February, March, April and May.

As has been stated the foot can be considered as a mechanism and therefore anything that will impair the working of the machine is detrimental. The mechanical factors acting on the foot in the production of flat foot can be described as follows:

1. A disproportion between the strength of the machine and the work it is called upon to do.
2. Weakness in the machine.
3. Defective support to the machine disarranging its adjustment and so interfering with its work.

A disproportion between the strength of the machine and the work it is called upon to do is equivalent to increase in weight in the individual or excessive use of the feet. Weakness in the machine is equivalent to rheumatism, gout, rachitis, wasting disease and general muscular weakness to which may be added trauma. Defective support to the machine is equivalent to improper shoes.

In many ways the last factor, that of improper shoes, is the most important. Improper shoes alone are responsible for large numbers of flat-foot cases and in those cases where an excessive amount of work is demanded of the foot as well as in the cases where the foot becomes weakened by rheumatism, gout, etc., the added factor of improper shoes turns the scale and flat-foot trouble begins. An improper shoe by supporting the foot in a faulty attitude makes impossible its best use and causes the foot to be acting always under a strain.

In order that the least amount of strain and the greatest amount of strength may be present in the foot there are certain normal positions for rest and activity. Whitman calls attention to the passive attitude of the foot, the chief characteristic of which is an outward rotation. "This attitude enlarges the base, locks the joints and throws the strain upon ligaments to relieve muscles. The attitude, normal when the foot is used as a passive support, is abnormal when it is in active use in that the strain falls upon the inner border of the foot or to the inner side of the fulcrum

and makes the proper exercise of muscular power and alteration of posture impossible."

There is a tendency among orthopædic surgeons to advise against the passive attitude even during rest. Taylor, in discussing foot postures, states that structurally man was made to go and he stands still only at his peril. Movements are preponderantly antero-posterior and the joints and muscles work best in or near the anterior-posterior plane. "The child, the youth and the soldier should be plainly told that straight foot standing and walking are strong, natural and correct, the everted foot, weak, inefficient and degenerate." It is interesting to note that the best sculptors both ancient and modern depict the active or working foot in the strong position.

Quoting from Whitman: "When the foot is used as a lever it should be held in such relation to the leg that the line of weight, passing downward through the center of the knee and ankle joint is continued over the second toe or practically the center of the foot." The calf muscles are the power, the foot is the lever and the distal end of the metatarsals is the fulcrum over which the body weight is lifted. "As the body is lifted over the fulcrum the leg is turned outward in its relation to the fore foot because the inner side of the fulcrum formed by the first metatarsal bone is longer than its outer side, thus the strain is directed toward the outer and stronger side of the foot."

In walking, the weight of the body is thrown forward at each step and the position of greatest strength is secured when the feet are held in a line with the direction of body weight and progression, i. e., straight ahead and parallel. If the feet are so held then when the body is lifted up on the toes and let fall the rising and falling are in the line that the body wants to go and the line of body weight falls over the center of the foot. If, however, the feet are turned out in walking, then the line of body weight falls inside the foot, more weight is thrown on the heel, the spring is lost from the step and what is known as the "pedistal walk" results.

Bradford describes the normal walk as follows: "In the normal step the foot is brought forward striking the ground at the heel, weight is then thrown normally upon the outer edge of the foot and is later brought upon the ball of the foot from the outer to the inner portion, when the head of the first metatarsal and great toe are brought to the ground. The body is then poised

with the weight upon the ground the toes being brought to the ground. The other foot is then brought forward and as weight is brought upon that the push comes from the rear foot, the heel being raised and the front of the foot and the toes exerting pressure to propel the body forward. If the moving foot is brought forward in the line of motion, the strain at the medio-tarsal articulation will be small. If, however, the foot when brought forward is turned out greater strain will be brought on the inner portion when the foot is placed upon the ground."

The effect of abduction of the foot has been well demonstrated by Sampson. He has shown that abduction tends to lower and weaken the inner longitudinal arch, while adduction raises and strengthens it. The effect of abduction on standing and walking can be shown by a model. (See figure 1 and 2.)

The practical application of the above mentioned foot postures is found in the use of shoes. The usual modern or improper shoe tends to make the foot during use assume what Whitman has called the passive attitude. It does not allow of the normal walk as described by Bradford, and it holds the foot in an abducted position as demonstrated by Sampson. The result is that the foot is continually working under a disadvantage and a strain, and sooner or later shows a weakening and breaking down.

PATHOLOGY.

It is not until the later stages of trouble that structural changes take place. At first there are simply changes in contour of the foot and changes in the relation of the bones. Lovett and Cotton define pronated foot as "That vicious attitude of the foot in which in habitual standing position it rolls over inward, the inner malleolus projects and abduction of the front part of the foot occurs." (An exaggerated or faulty use of the "Passive Attitude.")

The Astragalus is the keystone of the inner arch of the foot. In flat-foot it is dislocated forward, downward and inward. The scaphoid is popped outward and the foot is abducted and everted. The middle cuneiform slips downward, the internal cuneiform inward and pressure on the plantar vessels and nerves causes oedema and pain.

The structural changes which occur include: weak and distended ligaments, denudation of cartilage from exposed articular surfaces, formation of new articular facets, thickened periosteum

and the formation of osteophytes; the internal structure of the bones becomes changed in the later stages and there may be marked muscular atrophy.

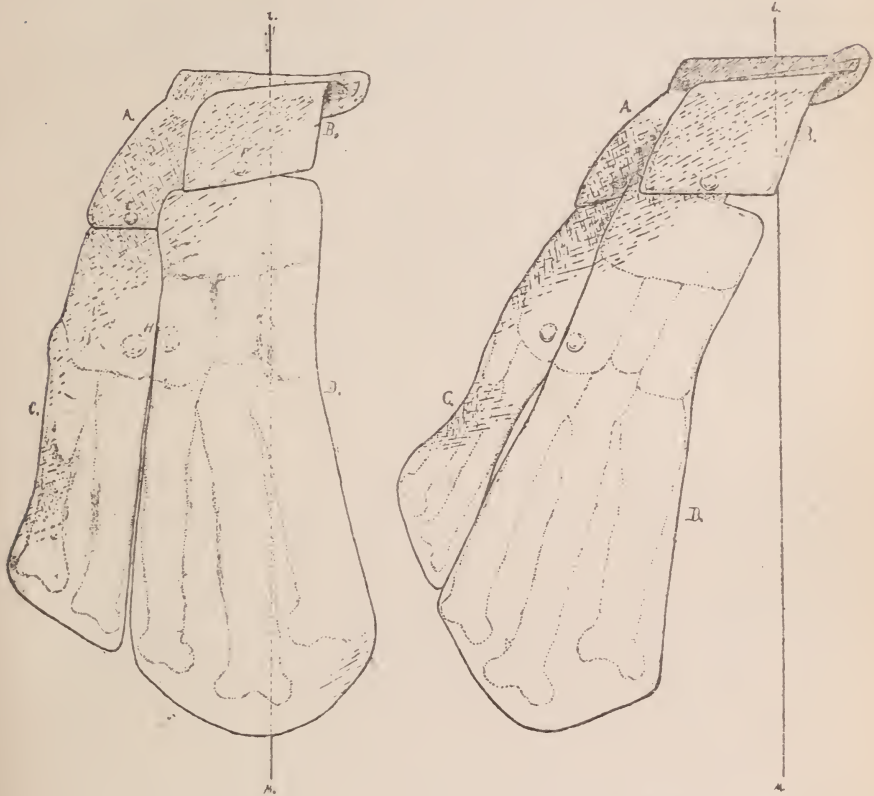


Fig. 1

Fig. 2

Fig. 1. Model of the foot made from spring brass. The model is made up of four pieces designated A. B. C. and D.

A. represents the os calcis,

B. represents the astragalus,

C. represents the cuboid and 4th and 5th metatarsal bones.

D. represents the navicular, cuneiforms and 1st, 2nd and 3rd metatarsal bones.

Adduction and abduction of the foot take place at the articulations between the os calcis and cuboid and between the astragalus and navicular, the part of the foot in front of these joints moving as a whole. In the model the astragalus (B) is firmly fastened to the os calcis (A). The articulations between the os calcis and cuboid and between the astragalus and navicular are made by means of the rivets E. and F.

The front part of the foot is made to move as a whole by fastening C. and D. together at H. The line L. M. represents the line of body weight in the normal foot. Note that it falls over the 2nd metatarsal. Note the height of the inner longitudinal arch.

Fig. 2. Same as Fig. 1 only abducted. Note that the line of body weight now falls to the inner side of the foot and note the lowering of the inner longitudinal arch. The raising of the inner longitudinal arch by adducting the foot can be readily shown on the same model.

SYMPTOMS.

The numerous symptoms which may appear during the various phases of the flat-foot series have facetiously been compared in number and variety to those produced by the "Boston eye strain." All sorts of symptoms are described, varying from a simple feeling of discomfort in the feet to herpes progenitalia and pain in the pubic region described by Ehrmann.

The symptoms vary, depending upon the degree of advancement of the trouble, but there is no certain relation between the degree of deformity and the severity of the symptoms.

As a rule in the earliest stages there is a loss of elasticity in the walk; there is no longer any pleasure in walking. Not only do the feet feel tired, but there is a general tired feeling and loss of ambition. Irritability of temper is a marked characteristic in cases of well developed weak feet. As the trouble advances pain is present in varying degrees of severity. Wet weather seems to aggravate the condition and there may be periods of relief or the trouble may shift from one foot to the other. Every step is now painful. The patient walks with a limp and a rough or uneven pavement so aggravates the trouble as to make walking almost impossible. Pain may be referred to the calf of the leg, to the knee, thigh or back. The patient frequently runs the rounds of treatment for rheumatism, gout, arthritis, etc., and even neurasthenia. Thompson gives a graphic description of a characteristic case. The patient has gone through a course of antirheumatic remedies, liniments, lotions, baths, electricity, etc., possible, he has had rheumatism and it has all gone except in the feet. The patient rises in the morning and it takes five or ten minutes to get used to standing on the feet; he works all day in discomfort, and rushes home at night to get his shoes off. In bed the patient frequently cannot get to sleep on account of pain and discomfort. I have seen patients that said they could not bear the weight of the bed clothes on the feet.

As the flat-foot condition advances muscle spasm appears; the foot may be reddened, swollen and oedematous and the diagnosis of tuberculosis is quite frequently made. Structural changes occur and the conditions may pass on into that of rigid flat-foot.

EXAMINATION.

For a thorough examination the shoes and stockings should of course be removed. One of the first things to be observed is the

walk. The characteristic walks are the outward rotation of the feet and rolling in of the ankle in pronated foot; the painful limp of weakened arch and flat-foot and the stilt-like walk of rigid flat-foot.

The appearance of the foot varies from that condition seen in congenital flat-foot where figuratively speaking "the hollow of the foot makes a hole in the ground," to a condition where, on inspection, the foot is apparently normal and the diagnosis is made from the history alone.

Imprints of the foot on smoked paper, etc., are worthless in determining the degree of trouble. (See Plate 1.) Pronation of the foot is a most important symptom to be observed. Whitman describes it as a shifting downward and inward of the bones of the leg from off the os calcis, together with a turning outward of the foot. The foot should be carefully tested for limitation of motion and for muscle spasm.

DIAGNOSIS.

Diagnosis is usually easy, especially if a careful examination of the foot is made. The idea that the weakened and painful foot must be associated with obliteration of the arches is, of course, erroneous.

A differential diagnosis has to be made from rheumatism, gout, arthritis, osteitis, metatarsalgia, periostitis, etc. The most common error in diagnosis is that of mistaking the weakened foot for rheumatism. The shifting of the trouble from one foot to the other and the exacerbations during the wet weather tend to confirm the diagnosis of rheumatism. Oftentimes a well-fitting felt pad applied under the arch will clear up the diagnosis at once.

TREATMENT.

The treatment varies with the conditions of advancement of the trouble and with the severity of the symptoms. In some cases the foot may be rescued by simply directing its proper use; instructing the patient to use the heel-toe walk, holding the feet parallel. Other cases may require simply a pad under the arch or a raising of the inner side of the sole of the shoe. Still other cases may require a special shoe, while the most advanced cases may require severe operative interference.

The thing to be aimed at is a rational treatment. For practical purposes flat-foot can be considered as a dislocation of slow

development. We are taught to reduce dislocations along the same lines that they are produced and the same rule can be applied in the treatment of flat or weakened feet.

Consider for example that we are dealing with a case of genuine flat-foot. The first thing to be done is to reduce the dislocation and restore the foot to its normal contour. Thompson gives the following method of reduction, which sometimes has to be done under an anaesthetic:

1. Extend sharply on tarsus (increasing the space between internal cuneiform and astragalus).
2. Forcibly invert and adduct, and flex again to 90° , maintaining the adducted and inverted positions. (This will bring the scaphoid back into place.)

Following the reduction, the foot is held in proper position by means of adhesive strapping, or in the severe cases by a plaster of paris dressing. I cannot speak too highly of the adhesive strapping combined with a felt pad in the instep for the ordinary cases of painful weakened foot. A patient that has suffered for months may be almost completely relieved from pain in as many hours.

The effect of the adhesive strapping or plaster paris dressing is to relieve the muscle spasm, and to stop at this point is useless if a cure is desired. The poor circulation of the foot must be restored by alternate hot and cold douching. The weakened and overstretched muscles and ligaments must be strengthened by massage and carefully regulated gymnastics. An excellent gymnastic exercise to correct the tendency to pronation is to have the patient walk along two boards set up at an angle of 160° - 165° .

The treatment of flat-foot is popularly associated with the use of a support or brace. The supports and braces in use vary from a simple pad of felt placed beneath the arch to a complicated constructed apparatus surrounding the foot and extending up the leg. Townsend has written an excellent article on "The Abuse of Flat-Foot Supports." He calls attention to the fact that when flat-foot does exist it does not necessarily follow that a brace should be used. Slight degrees of trouble may not need a support, while severe degrees may require operative interference. Extreme spasm, deformity or an inflammatory condition are contra-indications for the use of a brace. One would as soon think of treating a case of rigid flat-foot with a brace as of putting a

To Illustrate Dr. Berry's Article on "The Flat-Foot Series on Disabilities and Deformities of the Foot."

Albany Medical Annals, April, 1906

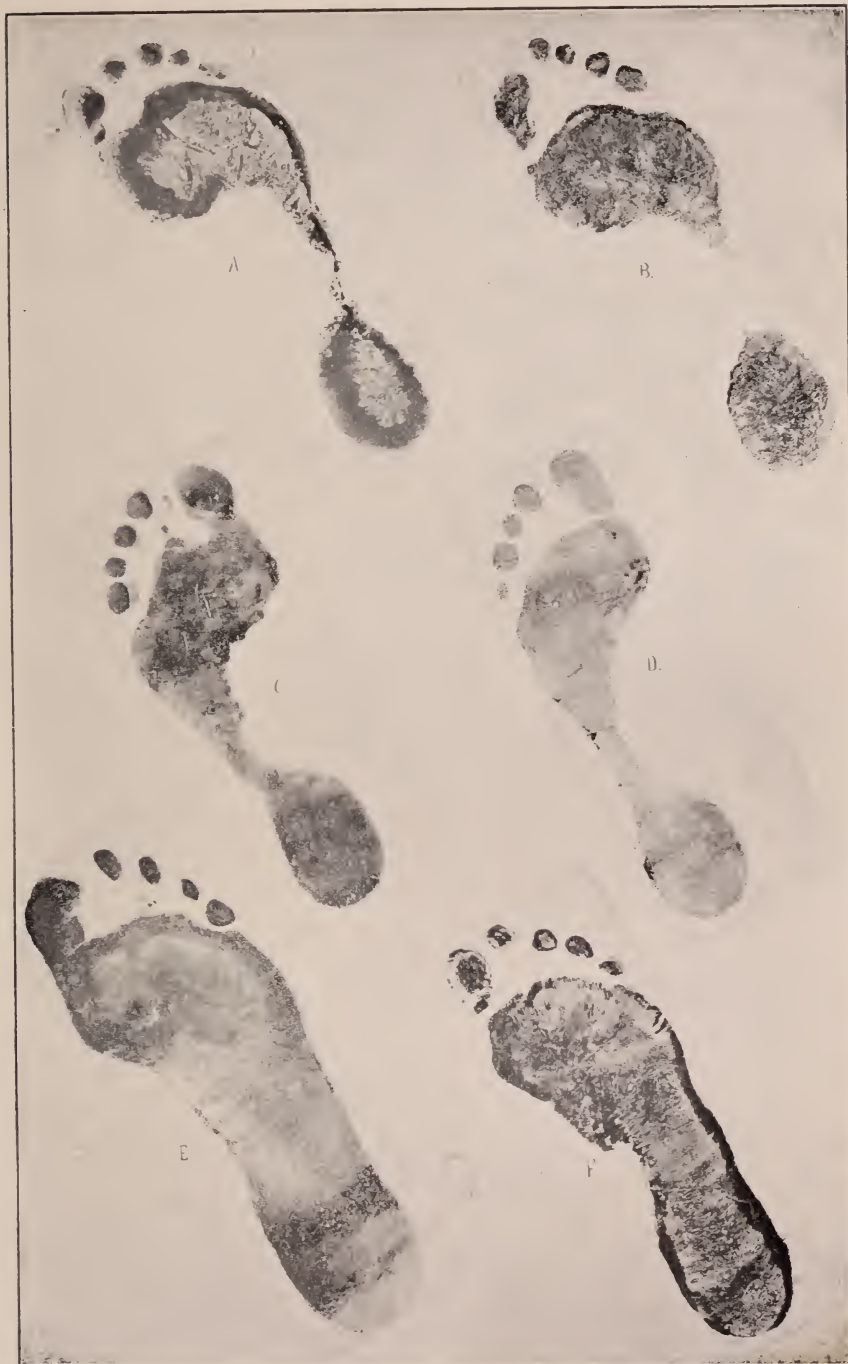


Plate I

Foot imprints of six cases are shown illustrating three types of feet. The first two imprints A. and B. are "island" imprints.
Imprint A. is from a foot without pain.
Imprint B. is from a very painful foot.
Imprints C. and D. represent a second type of foot.
Imprint C. is from a foot without pain.
Imprint D. is from a painful foot.
Imprints E. and F. represent a third type of foot in which there is almost complete obliteration of the longitudinal arches under weight bearing.
Imprint E. is from a foot without pain.
Imprint F. is from a painful foot.

dislocated shoulder in splints without first reducing the dislocation. Different cases require different treatment.

Quoting from Townsend's article: "The valgus or abduction must be overcome, the weakened structures must be strengthened, the free and normal motion of the foot must be restored, the deformity overcome, the patient made to walk as patients with normal feet should walk, and the application of a support simply intended to push up a weakened arch can never accomplish this. Temporary relief may be obtained, but not a cure, when a true and severe case of flat-foot exists. Perfect reduction of a deformity may be gained by the use of a support, and by not strengthening the muscles and cultivating normal move-

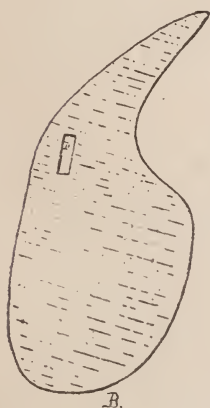


Fig. 3



A.

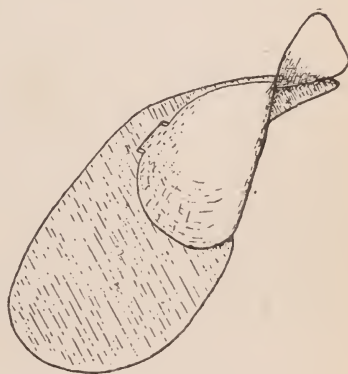


Fig. 4

Fig. 3. A. represents the supporting part or brace proper which is moulded to fit the arch of the foot.

B. is the base piece supporting the brace and holding it in the shoe.

The head C. fits into the slot D.

Fig. 4. The brace ready for use.

ments the foot may be still farther weakened rather than improved. By the use of an improper brace what is not a flat-foot may be made one. It follows, therefore, that the routine practice of patients treating themselves or being treated by ready-made supports should be discouraged."

The use of plates is to apply corrective force with the body weight acting as a counterforce. The brace or plate should interfere as little as possible with the normal motion of the foot. The fault with a great many braces is that they splint the foot. Athletes training for a boat race do not put their arms in splints

and stay in bed. (Figures 3 and 4 are sketches of a brace which I have found very useful in the treatment of weakened feet.)

In the treatment of flat or weakened foot a proper support may be applied and all benefit lost by an improper shoe. As a prophylactic measure and as an aid to cure the most important therapeutic agent is a proper shoe. No sane physician would think of treating a patient for the effects of tight lacing and allow the tight lacing to continue; and yet time and again when a weakened condition of the foot is caused or is kept up by improper shoes no attempt is made to correct them. I wish to mention a last devised by Dr. Sampson. In a later article I hope to give an explanation of the improved features of this last over that of the ordinary commercial last. Suffice it to say that it is a last for the individual foot and that it allows the foot to adduct sufficiently to bring all parts into their proper relations when the foot is called upon to perform its function.

A brief summary of treatment is as follows: Reduction of the dislocation. Retentive splinting to relieve the pain and muscle spasm. Hot and cold douching to restore the vascular and nervous tone. Massage and gymnastics to strengthen the weakened muscles and ligaments. Instruction in the proper use of the feet. The use of a proper brace which will act as a support but yet allow of freedom of movement and so not splint the foot. And then in order that all of these measures may have their full benefit, that the foot may act in a normal way such that every step instead of being a strain is a stimulus to strengthen the last and most important treatment is a proper shoe.

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Editorial

It is perfectly certain that all diseases without exception are preventable; or, if not so, that they can be so weakened as to do no harm. It is perfectly certain that all accidents are preventable; there is not one that does not arise from folly or negligence. All accidents are crimes. It is perfectly certain that all human beings are capable of physical happiness. It is absolutely incontrovertible that the ideal shape of the human being is attainable to the exclusion of deformities. It is incontrovertible that there is no necessity for any man to die but of old age; and that if death cannot be prevented, life can be prolonged far beyond the farthest now known.

The Story of My Heart.

RICHARD JEFFERIES.



On February twenty-second last, the physicians of Rensselaer county celebrated the centennial anniversary of the organization of their society. **The Centennial Celebration at Troy** In the afternoon addresses were given in the hall of the Young Men's Christian Association, as follows:

"The Early Diagnosis and Treatment of Pulmonary Tuberculosis," by Dr. Lawrason Brown, Saranac Lake Cottage Sanatorium, Saranac Lake, N. Y.;

"The Pathogenic Protozoa," with Lantern Slide Exhibition, by Dr. Richard M. Pearce, Director of the Bender Hygienic Laboratory, Albany, N. Y.;

"A Discussion of Some of the Immediate and Some of the Late Consequences of Cranial Injuries and their Treatment," by Dr. Harvey Cushing, Associate Professor of Surgery, Johns Hopkins Medical School, Baltimore, Md.

In the evening the centennial banquet was held at the Troy Club. Remarks were made by prominent citizens of Troy, by Dr. William M. Polk, of New York, and a history of the medical profession of Rensselaer county was presented by the modern Hector, Dr. Bontecue, who, like the hero of the ancient city, may be said to be "not only the bravest and most powerful, but also the most amiable, of his countrymen."

It has been the purpose and the desire of the ANNALS to present a memorial number of this celebration, that the achievement and progress of which it was the token might have perma-

ment record. Unfortunately, the addresses are not all available for publication. Dr. Brown's paper only was written ready for reproduction. Dr. Pearce's lantern slide exhibition cannot be placed in type, and Dr. Cushing's address was not delivered from manuscript. The ANNALS, however, takes the opportunity to demonstrate its respect for the colleagues of the sister city. Fortunately, there is at hand a paper which may be taken to represent the profession of that city, and in this issue are published the contribution by Dr. Berry, a member of the Medical Society of the County of Rensselaer, and also an abstract of the historical sketch prepared by Dr. Bontecue.

It is with great satisfaction, then, that the ANNALS dedicates this issue to the physicians, past, present and future, of Troy.



It has been the pleasure of the ANNALS each year to announce the work and the growth of this remarkable charity, and the Annual Report, just issued, justifies again reference to the progress and to the record of achievement. Faith in a local institution is now justified by a reputation which bids fair to be national. In the Spring of 1905 the chairman of the National Committee of Visiting Nursing sent blanks for information to all associations and corporations in the United States doing district nursing, and, in due time, informed the Guild that its work was found to be "the broadest and most unique in the whole country." As a result the Guild was invited to representation in the National Conference of Charities and Corrections, and the head nurse, sent as delegate to Portland last Summer, adds an interesting report to those of which this volume is made.

The activity of the Guild is revealed in the great number of facts of the Annual Report, which requires seventy-eight pages, whereas in 1897 fifteen pages were sufficient. *Each additional page is the record of some good to humanity.* From a small group of ladies, well intentioned and energetic, who personally carried delicacies to the sick poor, the Guild has developed into a strong organization to provide nursing and care for the poor when sick, to teach them how to avoid sickness when well, and, under its later regulations, to extend its help to those in better circumstances to whom sickness comes as a calamity and whose resources are thus jeopardized.

The organization of the Guild comprises a Board of Managers, with Standing Committees, an Advisory Board, upon which are always two physicians, a Dental Department, a Special Obstetrical Department, a Diet Kitchen Department and a Lecture Course for Nurses in the employ of the Guild. Five graduate nurses are employed by the Guild. These nurses answer all calls for their services. There are also six assistant nurses, who are in training, and at the end of a two and a half year course receive a certificate from the Guild which places them at once in good standing in the community. The lecture course is a necessary aid to this training, but takes quite a subordinate place, and the certificate of these nurses is recognized as representing experience and work. As in all of the affairs of the Guild reputation has been based upon acts rather than words.

The Special Obstetrical Department continues in active work. Fifty-seven cases were attended during the year, and thirty-three medical students were given the opportunity for practical training. Obstetrical clinics have also been held at the Guild House.

For the many other instructive details readers of the ANNALS are referred to the report. The ANNALS only wishes physicians and the community to know what an exceptional and vigorous aid they have at hand with which to meet and combat the emergencies and the distresses of life.



On Monday afternoon, March twelfth, the new Pavilion G of the Albany Hospital was opened to the public for inspection, prior to the reception of patients. On the following day the first patient, a child with scarlet fever, was admitted, and the work of this new department thus inaugurated. For several years the need of an institution for the care of contagious diseases has been agitated, and after the city authorities decided to add this department to the Albany Hospital, considerable delay occurred before its final assumption of work. It is now believed that many of the hardships incident upon the presence of contagious diseases in the household may be obviated, that quarantine regulations may be carried out, and that the spread of epidemics prevented, or at least in some measure controlled. Dr. Arthur Sautter, deputy health officer of the city, has been appointed attending specialist in contagious diseases to the Hospital, and will have care of the new pavilion.

The structure is two-story and basement, but only the basement and first story are completed. The upper floor is so arranged that it may be turned into wards within a very short time. It is intended to use this floor as an emergency plant.

The basement contains the caretakers' quarters, the nurses' apartments, orderlies' rooms, kitchen, laundry, sterilizing room, morgue, etc. The main floor is arranged for the physician's office, bath rooms, parlors, four wards, private rooms, sterilizing and warming equipments, etc. Each ward is provided with food-warming apparatus, sterilizer, bath rooms, medicine cases and every convenience, so that it is complete in itself, and all wards are isolated and independent. There are bath rooms for convalescent patients, and lockers for sterilized apparel in readiness for use on discharge. The building is heated by the same system as the main hospital, and everything is constructed with a view to its sanitary and hygienic needs.

Patients with contagious diseases are admitted to the hospital either upon order of the health officer or a reputable physician. Public or charity cases are committed by the health officer and private cases by the patient's physician. The discharges are upon order of the health officer after the usual quarantine.

This addition adds to the perfection of the Albany Hospital. In fact, there are few hospitals in the country with so generous provision for all classes of disease. The work of the new pavilion will be watched with interest, and much may be expected from the perfection of its construction and the ideal plan of organization and administration.

Little Biographies

IV. VALSALVA.

ANTONIO MARIA VALSALVA was born of noble parentage at Imola, Italy, February 15, 1666. His early education was obtained under the tutelage of the Jesuits, and from the first he showed an extreme aptitude for anatomy. The major part of his education was carried on at that early center for anatomical and medical research, the University of Bologna, where he first devoted himself to mathematics, philosophy and botany, and later took up the study of medicine, paying especial attention to anat-

omy. He was a student of the famous Malpighi, but as the latter was not able to give him all the instruction he wanted, he worked also under other scholars at the University. He obtained his Doctor's degree in 1687, but continued to prosecute his anatomical studies with great diligence, remaining in Bologna for the purpose. His work was done upon both cadavers, and living animals in disease and health, and in the year of his graduation he successfully removed a kidney from a dog without causing the subsequent death or ill-health of the animal. It is also related of him, as showing his enthusiasm for his work, that he caused the body of a person who died of some unusual malady to be disinterred in midsummer, that he might investigate for himself the conditions present. Such studies affected his none-too-robust health (he is said to have had phthisis), and though his friends were much concerned about him he paid little attention to their solicitations; in this he was apparently justified by later events, as his death did not occur until February 2, 1723, when he died of apoplexy at the age of fifty-seven.

At the age of thirty-one he was appointed Professor of Anatomy in his Alma Mater, the worthy successor of Mundinus, Arantius, Varoli and his master, Malpighi. He practised medicine, however, during his occupancy of this chair, and at about the same time was made Surgeon to the Hospital for Incurables, a position he held for a period of twenty-five years, or until his death.

During his services at this hospital he introduced into general usage the practice of ligaturing severed vessels, and abolished the previous haemostatic use of the actual cautery. He was not the originator of the use of ligatures, a practice first devised by Ambrose Paré in France about the middle of the sixteenth century, and later highly recommended in Italy by other surgeons, but he it was who revived the neglected and almost forgotten method. Valsalva also simplified and improved the surgical instruments then in current use. However, it is as an anatomist, not as a surgeon, that his name has come down to us as one of the foremost men of his time. The chair of anatomy at Bologna was reserved under the terms of its foundation for natives of the city, though this rule might be excepted in the case of a foreigner whose singular talents merited the appointment. That the governors of the

university judged rightly in considering that in his case an exception to this rule should be made was amply proven by later events.

Valsalva's main work was upon the human ear. Upon this, which may be truly said to have been his life work, he devoted himself for sixteen years, during which time he dissected more than one thousand heads. The results of this work was first published in Bologna in 1704 under the title "*De aure humana tractatus in quo integra ejusdem auris fabrica, multis novis inventis et iconismis illustrata, describitur; omniumque ejus partium usus indagatur,*" etc. A second edition was published in Utrecht in 1707 and a third in Geneva in 1716. A collected edition of all his works was published in Venice in 1740, under the supervision of his pupil, Morgagni, to which was added a life of Valsalva by Morgagni and three dissertations which the former had presented to the Academy of Medicine of Bologna. The first of these dissertations was upon the colon, the aorta, the accessory nerves (of the eighth pair) and the eyes; the second also concerned the eyes, and the third and last the excretory ducts of the adrenals.

The main part of the work was in two subdivisions; the first dealt principally with the anatomy of the ear, and the second with the physiology of its component parts, together with a brief account of the chief diseases which affect this organ. There is not space here to speak in detail of the various discoveries made by this great anatomist, and the principal ones only will be mentioned. He demonstrated the anterior and superior auricular, the tragus and antitragicus muscles, as well as several muscles of the pharynx. He described several previously unknown features of the middle ear, the ossicles, the cochlea and Eustachian tube. He showed the true location of the tensor tympani muscle and demonstrated that deafness might be caused by a blocking of the Eustachian tube or by impaction of cerumen in the external auditory canal. Several cases of deafness from the latter cause he cured, with much consequent renown to himself. He clearly showed the relationship between hemiplegia and lesions of the cerebral cortex.

In his dissertations he described the so-called ligaments of the colon, and the sinuses of the aorta which bear his name. He also described a fourth sinus at the level of the transverse

aorta near the origin of the left subclavian artery, a point frequently the site of aneurysms. He clearly understood the cause of cataracts, but that all of his observations were not correct may be seen from his statement that the intrinsic muscles of the eye had their origin upon the dura mater and that it was his belief that in glaucoma the crystalline lens was yellow. He considered that the adrenals had an important part in the generation of species and described excretory ducts passing from them and ending in the ovary in the female and in the testis in the male. Portal states that Valsalva dissected the cadaver of a man who had but one kidney and a dog who had no spleen, but adds, "nevertheless these observations ought to be confirmed before being accepted."

Not the least of Valsalva's work was his power and influence as a teacher. His most famous pupil was Morgagni, afterward Professor of Anatomy at Padua. It is said that his influence as a teacher was so great that many individuals who came to him in the capacity of servants later became his students

CHARLES K. WINNE, JR.

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Scientific Review

SOME RECENT REPORTS UPON THE TOXAEMIAS OF PREGNANCY.

I. THE PATHOLOGICAL ANATOMY AND PATHOGENESIS OF THE TOXAEMIA OF PREGNANCY.

JAMES EWING. *The American Journal of Obstetrics*, 1905, LI, pp. 145-155.

In this communication, read before the New York Obstetrical Society (date not given), the author described the hepatic lesions of the three clinical manifestations of the toxæmia of

pregnancy, viz., eclampsia, acute yellow atrophy and pernicious vomiting, in connection with a short clinical description of cases and followed by remarks on the pathogenesis of these lesions.

In three cases, clinically diagnosed as eclampsia, and dying from this condition the following changes were found in the liver: (1) the hæmorrhagic hepatitis so frequently found in these cases; (2) acute yellow atrophy; (3) a liver without striking gross changes, but only microscopic lesions, which, however, prove to be those of the very significant process of autolysis of the liver cells.

Three cases, selected from other clinically diagnosed as vomiting of pregnancy, showed that this disease, when fatal, may be associated (1) with acute yellow atrophy of the liver or (2) with the same necrotic process in a liver which is not reduced in size or (3) with less marked degenerative changes in the liver which might be overlooked or ignored, but which really indicate extensive autolysis and profound disturbance of the function of the organ.

The hepatic lesions, in the three fatal cases of pernicious vomiting, were identical with those found in the last two cases of eclampsia and in one of the cases of pernicious vomiting, a distinctly atrophic liver was found.

As a result of these studies the writer states "that the morbid process in eclampsia, acute yellow atrophy, and pernicious vomiting is one and the same. This conclusion is, of course, not new, but merely a verification as regards eclampsia and acute yellow atrophy, of the statement of Klebs, made in 1888, and of the recent statement of Stone (*American Gynecology, Vol. II, 1903*), regarding the identity of all three manifestations of the toxæmia of pregnancy."

The writer reports a case of post-gestational acute yellow atrophy and also the autopsy findings in two cases of acute myelocytic leukæmia following pregnancy, in both of which changes in the liver were found, in the first those of acute yellow atrophy and in the second a diffuse granular, hydropic and fatty degeneration.

In considering the relation between the mild and severe cases of vomiting of pregnancy, the writer says: "No one doubts that the mild and the fatal cases of eclampsia are identical in nature, but there persists a definite impression in some quarters that acute yellow atrophy never occurs in

mild form, but is always fatal, while it is still generally taught that the mild vomiting of pregnancy is 'physiological' and that the severe vomiting is an exaggerated form of the other, but without definite pathological basis. Impressed by the supposed rarity and unfavorable prognosis of acute yellow atrophy, clinicians seldom attempt the diagnosis of this disease, hence only the fatal cases are commonly recognized. But recent study of the toxaemia of pregnancy and of many other clinical conditions furnishes abundant evidence that the morbid process in acute yellow atrophy is of very frequent occurrence and is often followed by recovery."

"On both clinical and pathological grounds there is just as little reason for separating the mild and fatal cases of vomiting of pregnancy as for denying the identity of mild and severe cases of diabetes. Vomiting is seldom the only symptom present in early cases of vomiting of pregnancy, but observation usually shows also striking mental symptoms, headache, hysterical tendencies, pruritus, constipation, lassitude, etc., all of which doubtless result from the mild auto-intoxication which is the cause of the vomiting. No one may claim that whenever a pregnant woman vomits she is suffering from auto-intoxication; there are many causes of vomiting, and the pregnant woman may be alcoholic or have a brain tumor, but the characteristic vomiting of pregnancy is a perfectly definite clinical entity, which progresses from mild to severe stages and types, and after death there is a very definite lesion in the liver. This lesion is attended with a disturbance of nitrogenous metabolism and the failure of urea formation, and is marked by the appearance in the urine of many unoxidized proteid derivatives. This same disturbance of nitrogenous metabolism is present in cases of vomiting of pregnancy which are not fatal, and the unoxidized proteid derivatives appear in the urine of many of such cases."

Ewing classifies the toxaemia of pregnancy as "a functional disturbance of the liver, usually but not necessarily attended by severe anatomical lesions of this organ, and secondarily with functional disturbance and anatomical lesions of the kidneys and other organs. The ground for regarding this disease as primary in the liver is the fact that the synthesis of urea is exclusively a function of the liver." The interference with this function is indicated by the toxaemia

resulting from the presence in the blood of those proteid derivatives in a poisonous form, which are normally combined by the liver into urea and are to some extent excreted in the urine, as shown by the presence of leucin and tyrosin in many of the cases. "Disturbance of the kidney doubtless exists from the first, but only becomes pronounced when the poisons resulting from the failure of oxidation in the liver causes degeneration, congestion and exudative inflammation of these organs. Therefore, the disease may be far advanced before albuminuria appears."

The functional disturbance of the liver precedes the anatomical lesions, hence it is that the intensity of the disease does not vary with the severity of the anatomical lesions, for fatal cases may occur with minimal lesions of the liver.

The writer considers that many factors may be concerned in the disturbance nitrogenous metabolism and that "it is not necessary to fully explain the ultimate origin of the toxæmia before recognizing its existence and practical importance."

II. PERNICIOUS VOMITING OF PREGNANCY.

J. W. WILLIAMS. *Surgery, Gynecology and Obstetrics*, 1905, I, 41-45; *Zentralblatt für Gynäkologie*, 1905 XXIX, 949-955.

In May, 1903, the writer lost a patient at the third month of pregnancy, "four days after the induction of abortion, which was undertaken with a pulse of eighty and appeared to give every promise of a satisfactory outcome. Immediately after the operation the vomiting ceased and the patient was perfectly comfortable for eighteen hours, after which she began to vomit again and soon was almost incessantly expelling small quantities of a brownish coffee ground like material without apparent effort. She rapidly passed into a torpid condition and was absolutely unconscious for the last twelve hours of life."

At autopsy there were found in the liver and kidneys the lesions characteristic of acute yellow atrophy of the liver.

During the following year the writer saw five other cases of pernicious vomiting, in all of which the pregnancy was terminated. Two of these five cases died with the jaundice and diminution in the size of the liver characteristic of acute

yellow atrophy, thus giving a mortality of fifty per cent for the six cases.

The writer has carefully studied a number of other cases and as a result of his studies on the subject arrives at the following general conclusions:

Excluding all cases in which the vomiting results from lesions outside of the generative tract, and having no essential connection with pregnancy, and which should be regarded merely as accidental complications, he considers that the evidence at present available justifies one in dividing the cases of serious vomiting of pregnancy into the following groups:

(I) Reflex.

(II) Neurotic.

(III) Toxaemia.

(I) *Reflex vomiting of pregnancy.* This variety of vomiting may be due to the presence of abnormalities of the generative tract or ovum, which existed prior to the onset of pregnancy, or are coincident with it. Among such conditions may be mentioned:

(a) displacements of the uterus, particularly retroflexions,

(b) ovarian tumors,

(c) certain cases of endometritis.

(d) abnormalities of the ovum, such as hydatiform mole, hydramnios and certain cases of twin-pregnancy.

(II) *Neurotic vomiting.* This group of cases can only be explained by the fact that cases are cured by suggestion, rest and by employment of absolutely worthless remedies.

(III) *Toxaemic vomiting.* All sorts of theories have been advanced concerning the origin and nature of the toxic material giving rise to this condition, among which may be mentioned:

(a) secretion of corpus luteum,

(b) secretion of ovary,

(c) absorption from intestines.

(d) hepato-toxaemia (Pinard and Bouffe de St. Blaise),

(e) invasion of maternal organism by foetal elements, the syncyto-toxin theory of Veit, Behm and others,

(f) its identity with eclampsia on the one hand and acute yellow atrophy on the other (Champetier de Ribes and Bouffe de St. Blaise, Stone, Ewing and Edgar).

The writer concludes that "in some cases of pernicious

vomiting we have to deal with a toxaemia which gives rise to serious lesions in the liver and later in the kidneys, and that the latter are secondary in character, as is indicated by the fact that the urine does not contain albumin until shortly before death." Associated with these lesions is a striking change in metabolism, which is manifested by a marked increase in the percentage of nitrogen put out as ammonia compared with the total nitrogen of the urine, so that the former, instead of being three to five per cent, as normal, may rise to sixteen, thirty-two or even forty-six per cent, as occurred in several of his cases. "Whether this increased ammonia coefficient is due to the fact that the marked destruction of liver tissue interferes with the normal oxidation of nitrogenous material, so that large amounts escape conversion into urea, and are therefore excreted in a less highly oxidized form, as ammonia, or whether it merely represents an attempt to neutralize an excessive production of acid—a so-called acid intoxication—is as yet undecided." Williams' experience has taught him that a marked increase in the ammonia coefficient (*i. e.*, ten per cent or over) in a woman suffering from pernicious vomiting indicates the existence of a serious toxaemia, which, if allowed to continue, will be found to be accompanied by lesions of the liver and other organs, inconsistent with life. Accordingly, under such circumstances, abortion should be induced as soon as the condition is detected.

"On the other hand, in the reflex and neurotic forms of vomiting the ammonia output remains normal and accordingly the determination of the ammonia coefficient affords not only a means of diagnosis between the neurotic and toxaemic varieties of vomiting, but is a most valuable guide as to treatment."

Williams agrees with Stone and Ewing as to the anatomical lesions found in certain cases of vomiting of pregnancy, but does not support them in the view that the toxaemic vomiting, acute yellow atrophy and eclampsia are manifestations of one and the same toxaemia. He thinks that there are at least two toxaemias of pregnancy, and probably more, one giving rise to the vomiting of pregnancy and acute yellow atrophy, and the other to eclampsia.

In support of the above he gives the following arguments :

(I) That while neurotic lesions in the liver occur in both conditions, they differ from each other.

(II) In most cases of eclampsia and pre-eclamptic toxæmia there are marked signs of involvement of the kidneys and general circulation, as manifested by scanty urine in proportion to the intake of fluid, the early appearance of pronounced albuminuria and the presence of casts and œdema. In vomiting, on the other hand, the urinary output is diminished only as the intake of fluids is interfered with, and albumin and casts are present only in the last days or hours of life, while œdema is absent.

(III) Chemical analysis of the urine shows that the total amount of nitrogen is greatly diminished in eclampsia, while the ammonia coefficient remains practically normal. In vomiting, on the contrary, in spite of the scanty amount of urine, the amount of total nitrogen remains approximately normal, while the ammonia coefficient is wonderfully elevated. "Generally speaking, it may be said that a high ammonia output is a favorable prognostic sign in eclampsia, and a very ominous one in vomiting."

III. TOXAEMIA OF PREGNANCY WITH VOMITING; ITS TOXIC MANIFESTATIONS, ITS RELATION TO ECLAMPTIC TOXAEMIA, ACUTE YELLOW ATROPHY AND EXPERIMENTAL NECROSIS OF THE LIVER.

ELLICE McDONALD. *The American Journal of Obstetrics*, 1905, LII, pp. 321-339.

The writer reviews the literature on this subject in order to show "(1) the identity of the liver lesions of toxæmia of pregnancy with vomiting and eclamptic toxæmia, and for the comparison of these lesions with those of experimental liver necrosis; (2) the frequency with which acute yellow atrophy occurs, and (3) the presence of more marked toxic symptoms."

In addition he reports a case with the following diagnosis—"Toxæmia of pregnancy with vomiting. Acute yellow atrophy of the liver. Mild bronchitis. Puerperal neuritis. Retained secundines." The patient was a primipara, 36 years old. Vomiting began when two months pregnant and persisted for the following month, but a physician was not consulted until the fourth month. He treated the patient with rectal feeding,

cocaine by the mouth and after several days curetted her and supposed that he had emptied the uterus. Eight days after the curettage the writer took charge of the case, owing to the departure of the physician from town. At that time the vomiting was persistent. There was slight jaundice, temperature was 99° and pulse 140. Heart showed the signs of mitral stenosis. Urine contained albumen, granular and hyaline casts, and leucin and tryosin. The uterus was soft, the size of a two months' pregnancy and retroverted. The jaundice disappeared at the end of the third week, and while the vomiting was much less it still continued in a mild form until after the removal of the placenta, six and a half weeks after the first curettage. Neuritis developed in the sixth week and at the end of that week the patient's temperature rose to 104° . On vaginal examination, placental masses were felt within the cervix. Under ether anaesthesia the cervix was dilated, the placental tissue removed, and the uterus curetted. Convalescence was slow and twelve months afterward the patient had not entirely recovered complete power in her legs. The chief interest in the case lies in the similarity of its clinical history with other cases review by the writer, in which the post-mortem reports showed acute yellow atrophy and also in the fact that the vomiting persisted more or less until the removal of the placenta, six and one-half weeks after the escape of the foetus.

After reviewing the literature of experimental liver necroses and comparing the liver lesions thus formed with those found in the livers removed at autopsy from patients dying from the toxæmias of pregnancy, the writer concludes that "there is evidence, therefore, that, in the toxæmia of pregnancy, an agglutinative substance occurs in the blood and that this, by causing the clumping of red cells, leads to the occurrence of liver necrosis. It is possible that there may be, in addition, haemolytic and other toxic substances." Dienst's experiments have added additional argument to the above hypothesis by obtaining the haemagglutinin reaction *in vitro*, from the blood of eclamptics. Dienst obtained blood from the umbilical stump and from the placental end of the cord at the time of labor and determined the action of these. The permeability of the expelled placenta was tested by the injection of milk and that of the placenta *in situ* by injecting methylene blue. He concludes that eclamptic toxæmia is due to agglutination and haemolysis and

that this can only occur when there is a free communication between mother and child. Dienst's supposition that the haem-agglutinin is formed in the foetus is weakened by Hitschmann's case of eclamptic toxæmia, occurring in connection with a four and one-half months' hydatiform mole and by Behm's case and the one reported by the writer, in both of which symptoms of toxæmia persisted after the expulsion of the foetus and until the removal of the placental remains.

IV. HYPEREMESIS GRAVIDARUM.

(A Reply to a Similar Article by J. W. Williams in the *Zentralblatt für Gynaekologie*, XXIX, 949-955.)

DIRMOSER. *Zentralblatt für Gynäkologie*, 1905, XXIX, 1256-1260.

Dirmoser calls attention to the fact that in recent years the number of the authors who look upon the pernicious vomiting of pregnancy as an auto-intoxication has increased. He reviews the development of the auto-intoxication theory both along pathological and clinical lines. He refers to one of his own cases in which eclampsia occurred as a complication of pernicious vomiting at the end of the third month, a complication which has also recently been brought forward by the French writers. In this case acetone was found in large quantities.

Dirmoser does not think that the source of the intoxication is in the ovum but rather in the intestines, and that these are reflexly affected by the ovum so that poisonous substances are absorbed, which are responsible for the toxic manifestations of the disease.

He criticises the importance placed by Williams on the increased amount of ammonia excreted in the urine, as an aid in the diagnosis of pernicious vomiting and also for prognostic purposes, for it may also be found increased in eclampsia. In both eclampsia and vomiting it is indicative of disturbed liver function.

He also takes exception to the statement of Williams that in the cases of toxæmic vomiting the urine does not contain albumen until shortly before death, for albumen may be absent in eclampsia and present in cases of pernicious vomiting.

REMARKS.

A review of the above articles and also of similar ones on the disturbances associated with and caused by pregnancy, impresses one with the fact that these disturbances may be of a very serious nature, and that it may be necessary to terminate the pregnancy in order to save the mother, and that even after this has been done, the patient may be unable to recover from the pathological changes which have been caused by the pregnant condition.

The diversity of opinion of the different writers in regard to the different phases of this subject shows that many of its important problems have not yet been solved, as—

(1.) Is the pernicious vomiting of pregnancy, eclampsia and acute yellow atrophy of the liver different manifestations of one and the same toxaemia, or have we several toxaemias with which to deal?

(2.) Are the so-called physiological disturbances of pregnancy also manifestations of a toxaemia which differs only in severity from one giving rise to one of the other more serious conditions; just as we may have "mild and severe cases of diabetes," or any other disease?

(3.) What is the source of the toxaemia; does it come directly from the ovum or does the ovum reflexly affect some other organ of the body, as the liver or intestines?

(4) What is the significance of such bodies as leucin, tyrosin, aceton and diacetic acid and also the increased amount of nitrogen excreted as ammonia as compared with the total nitrogen in the urine and their importance as a means of diagnosis and prognosis and also as an indication of the treatment to be followed?

I think that we must agree with Ewing that many factors may be concerned in the disturbance of nitrogenous metabolism, and that "it is not necessary to fully explain the ultimate origin of the toxaemia before recognizing its existence and practical importance." It is evident that, at least, the severe cases should receive energetic treatment upon the rational basis that the disease is an auto-intoxication, bearing in mind that even some of the cases with liver lesions may recover. Fluids by mouth and saline irrigations are indicated as an aid in the elimination of the toxic substances, and where fluids are not well taken saline infusions may be used. If it seems necessary to terminate the

pregnancy, the physician must make certain that he has removed the entire ovum, otherwise the symptoms may persist as long as the secundines are retained, and if the termination of the pregnancy has been delayed too long, even this procedure may not save the life of the patient.

We hope that soon the significance of the various substances found in the urine in these cases, will be more clearly understood and also their true value as a source of diagnosis, prognosis and as a means of determining whether or not the pregnancy should be terminated.

JOHN A. SAMPSON.

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH—CITY OF ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, FEBRUARY, 1906.

Deaths.

	1902	1903	1904	1905	1906
Consumption.....	17	30	14	22	14
Typhoid Fever.....	2	1	1	1	2
Scarlet fever.....	0	2	0	0	0
Measles.....	0	0	0	0	0
Whooping-cough.....	0	4	0	1	0
Diphtheria and croup.....	3	0	1	0	1
Grippe.....	0	3	2	3	3
Diarrhoeal diseases.....	4	0	3	3	2
Pneumonia.....	9	10	16	21	15
Broncho-pneumonia.....	3	6	3	5	4
Bright's Disease.....	14	10	15	19	17
Apoplexy.....	12	5	9	14	8
Cancer.....	7	8	8	9	13
Accidents and violence.....	6	4	3	8	3
Deaths over 70 years.....	31	29	32	41	28
Deaths under one year.....	10	21	20	16	15
Total deaths.....	141	153	135	181	145
Death rate.....	16.59	18.01	15.89	21.30	17.06
Death rate less non-resi- dents.....	17.18	15.18	14.83	20.01	15.77

Deaths in Institutions.

	1902		1903		1904		1905		1906	
	Resi- dent	Non- Resi- dent	Resi- dent	Non- res- ident	Resi- dent	Non- res- ident	Resi- dent	Non- res- ident	Resi- dent	Non- res- ident
Albany Hospital.....	12	5	10	3	15	4	19	11	7	9
Albany Orphan Asylum...	1	0	0	0	1	0	1	0	4	0
County House.....	4	2	3	1	3	1	5	0	5	2
Home for Aged.....	0	0	1	0	4	0	2	0	0	0
Homeopathic Hospital.....	4	2	1	0	1	0	3	0	0	1
Hospital for Incurables....	1	0	0	0	1	0	0	0	0	1
House of Good Shepherd...	2	0	0	0	0	0	1	0	0	0
Little Sisters of the Poor..	1	0	1	0	0	0	1	0	0	0
Penitentiary.....	0	0	0	0	0	0	0	0	0	1
Public Places.....	2	0	0	0	0	0	4	2	0	0
St. Margaret's House.....	3	0	0	0	4	1	5	4	1	0
St. Peter's Hospital.....	6	0	2	1	5	1	5	1	3	0
St. Vincent's Female Or- phan Asylum.....	0	0	0	0	0	0	1	0	0	0
Births at term.....										74
Marriages.....										26
Still and premature births.....										9
Total.....										109

BUREAU OF CONTAGIOUS DISEASES.

	1902	1903	1904	1905	1906
Typhoid Fever.....	3	10	5	4	1
Scarlet Fever.....	9	10	12	6	22
Diphtheria and Croup.....	27	14	16	4	7
Chickenpox.....	6	49	5	8	8
Measles.....	8	3	7	66	2
Consumption.....	0	0	0	0	0
Totals.....	53	92	43	38	40

CONTAGIOUS DISEASES IN RELATION TO PUBLIC SCHOOLS.

	Reported D. S. F.		Deaths D S. F.		
	D.	S. F.	D	S. F.	
Public School No. 1.....	..	2	..	..
Public School No. 3.....	..	1	..	..
Public School No. 4.....	..	1	..	..
Public School No. 7.....	..	1	..	..
Public School No. 12.....	1	2	..	..
Public School No. 20.....	..	1	..	..
Albany Boy's Academy.....	1	..	..	..
St. Joseph's Academy.....	..	2	..	..
Number of days quarantine for diphtheria:					
Longest.....	30	Shortest.....	7	Average.....	20½
Number of days quarantine for scarlet fever:					
Longest.....	65	Shortest.....	13	Average.....	34½
Fumigations:					
Houses.....	24	Rooms.....		48	

ANTITOXIN.

Cases of diphtheria reported.....	7
Cases of diphtheria in which antitoxin was used.....	7
Cases of diphtheria in which antitoxin was not used.....	0
Deaths after use of antitoxin.....	0

PLUMBING INSPECTIONS.

In the Bureau of Plumbing, Drainage and Ventilation there were one hundred and fifty inspections, of which eighty-five were of old buildings and sixty-five of new buildings. There were twenty-two iron drains laid, six connections with street sewers, nine tile drains, fifteen cesspools, twenty-nine wash basins, thirty-nine sinks, twenty-nine bath tubs, thirty-one wash trays, one butler's pantry sink, one trap hopper in yard, and sixty-two tank closets. There were fifty-three permits issued, of which forty-four were for plumbing and nine for building purposes. There were five plans submitted, of which one was of an old building and four for new buildings. Six houses tested with peppermint and nine water tests. There were thirty-nine houses examined on complaint and fifty-seven re-examined. Twenty-seven complaints were found to be valid and twelve without cause.

Society Proceedings

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

A regular meeting of the Medical Society of the County of Albany was held in the Albany Medical College January 10, 1906, at 8.15 P. M.

The meeting was called to order by the president. There were present Drs. Baldauf, Bedell, Blair, Beilby, Cook, George, Gutmann, Hinman, Holding, Lempe, Laird, Moore, C. H., MacFarlane, Papen, Rooney, Sampson, Winne, C. K. jr., Vander Veer, and Wiltse.

The secretary read several communications from the State Society, which were referred to the proper committees.

Dr. PEASE then read a paper on "Some Interesting Features and Results of the Treatment and Prevention of Diphtheria by the Use of Antitoxin."

Dr. BEILBY, in opening the discussion, said that he had observed a few of the cases of rash following antitoxin, one case in which, after about ten to twelve hours from the injection, there was a very severe urticaria. This was very extensive, involving not only the extremities, but also the entire front. Some of these cases presented slight rise in temperature. In one case observed an urticaria followed by joint pains occurred about one month after the injection of antitoxin. The symptoms observed after the administration of antitoxin were not observed after the injection of normal horse-serum. The only symptom observed after the injection of normal horse-serum was a slight rise of temperature. The local skin lesions existed from an hour to eight to ten days. There were

no skin disturbances on the abdomen. He had frequently observed at the same time headache, excessive sweating and weakness.

Dr. SAMPSON then read a paper on "Uterine Myomata Simulating Pregnancy, with Especial Reference to the Submucous Variety."

Dr. LEMPE said that a case had come under his observation in which a woman had a large uterine myoma and was at the same time pregnant four months. He also asked Dr. Sampson what course of procedure should be taken in an event of this sort.

Dr. SAMPSON replied that each case must be decided for itself. In the majority of these cases of simultaneous pregnancy with the presence of large myomata it was possible to allow the pregnancy to reach term, when a Caesarean section might be done. He also said that there was no place in which more myomata occurred than in Baltimore. Perhaps there was one exception to this, which might be New Orleans. On the other hand, in Baltimore, with surgeons having a very large experience as far as gynecology was concerned, the complication of pregnancy and uterine myoma was very infrequent. He had seen, however, several such cases in which myomata and pregnancy were co-existent. He had seen several instances where it was necessary to interfere at the time of labor and do a Caesarean section. He had never seen a case in which it was necessary to remove a pregnant uterus which was also myomatous. In some of the specimens shown the tumor would not have interfered with the pregnancy, nor would it have impeded labor to a great degree. In some of the others pregnancy would have been impossible. It was a matter of opinion and judgment whether a myoma discovered during pregnancy would demand removal of the pregnant uterus, or whether we should preferably wait until a viable child might be born. This, as he said before, was a question which must be decided in each individual case. The size of the myoma, its location, its possible removal, without interfering with pregnancy, were the facts which must determine the question of the time of interference.

Dr. LEMPE said that he had witnessed an operation for a myoma of the cervix in which a caesarean section in which both mother and child survived the operation.

Motion to adjourn was carried.

JAMES F. ROONEY, *Secretary*.

A regular meeting of the Medical Society of the County of Albany was held in the Albany Medical College, February 14, 1906.

The meeting was called to order by the President at 8:40 P. M.

There were present Drs. Appleby, Baldauf, Bedell, Beilby, Berry, Cook, Craig, Curtis, Gutmann, Hacker, Happel, Holding, Hun, Jenkins, Laird, Lomax, Macdonald, MacFarlane, Mereness, Moore, C. H., Moston, Neuman, O'Leary, jr., Papen, Sampson, Stevenson, Trego, Vander Veer, A., Vander Veer, E. A., Wiltse.

The Secretary read a communication from the Corning Medical Society, asking that this society adopt resolutions in consonance with the resolutions presented by them and opposing the bill to legalize Osteopathy.

Upon a motion of Dr. VANDER VEER, resolutions the same as those presented by the Corning Society were adopted. Dr. Vander Veer also moved that the legislative committee of this society be instructed to appear at the hearings of this bill, and voice the opposition of this society thereto. Seconded and carried.

Dr. NEUMAN moved that a committee to revise the tentative by-laws submitted to the County Society by the State Society be appointed. Seconded and carried.

The President appointed as this committee Drs. Curtis, Neuman, and Sampson. The Secretary read a communication from the society for the enactment of legislation concerning the sale of medicines containing alcohol, powerful drugs, or narcotics, asking that the society take action in favor of the bill to be introduced by this society providing for the labeling of each bottle containing alcohol and other powerful drugs. Upon motion of Dr. HOLDING a committee was to be appointed to draw up resolutions, and to favor this bill before the committee to which it should be referred. Seconded and carried. The President appointed Drs. MacFarlane, Holding and C. K. Winne, jr.

The Secretary moved that he be directed to send notice to each of the members of the society asking them to write a personal letter to his representative in the Legislature voicing his opposition to the Osteopathy and Optometry bills. Seconded and carried.

Dr. BEILBY then read a paper on diseases of the thryoid gland, which will be published in the ANNALS.

Dr. VANDER VEER said that he was extremely interested in the very excellent paper of Dr. Beilby's, which showed thorough study and much labor. It also demonstrated the great work to the medical profession of Albany arising from the endowment of the Bender Laboratory by the late Matthew Bender. It seemed to him that a paper of the scope of Dr. Beilby's would have been impossible under the conditions existing in this city before the establishment of that institution. Beside that, most of the cases drawn from the literature were owing to the facilities for reference given by the State Medical Library. It had been of very great interest to men like himself to have heard this paper, men who have followed this line of work during its development through a long period of years. Twenty-eight years ago it was an operation which offered very great and many difficulties to the young surgeon who was called upon to remove a thryoid gland. He thought that the first man in this country to attempt, and advise the removal of this gland was Dr. Greene, who was the professor of surgery at Portland, Maine. He reported some cases in which he had been able to remove the thryoid. He could call to mind the fact that Alden March had also had some cases. He remembered very well the first case in which he himself had performed the operation of the removal of the thryoid. The operation was a severe one and complicated by much hemorrhage, which was the chief danger at this time. This patient, however, made a good recovery. Shortly after this the use of artery forceps greatly simplified the operation by minimizing the hemorrhage. Another of the large dangers was the

general anesthetic. Now it is possible in many cases to operate under cocaine. We are much indebted for the knowledge of the feasibility of local anesthesia in these cases to Kocher. Under these circumstances the opportunity for recovery is greatly increased.

Drs. MACDONALD and HOLDING presented a case of broken neck with permanent distortion, but complete recovery, functionally, to the society.

On motion the society adjourned.

JAMES F. ROONEY,
Secretary.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

A special meeting of the Medical Society of the County of Albany to take action upon the death of Dr. Samuel H. Freeman, was held in the College Library, Tuesday afternoon, March 20, 1906. The meeting was called to order by the President at 5:40.

The Secretary read the following letter:

MARCH 20, 1906.

DR. JAMES W. WILTSE, *President,*
Albany County Medical Society,
Albany, N. Y.

MY DEAR DOCTOR:—I had intended to be present at the meeting of the County Society this afternoon to take action on the death of Dr. Freeman; but circumstances render it impossible for me to do so.

Dr. Freeman retired from active practice so long ago that to many of the younger members of the Society he was scarcely known at all; but, when I came to Albany, and for many years afterwards, he was doing a large professional business, and was universally trusted and beloved by his patients. He was a man of sterling Christian character, most amiable qualities, and for many years stood in the front rank of his profession. After serving for many years as attending physician at the Albany Hospital, he was placed upon the consulting staff, and was its President. In the faithful discharge of all his duties, in his adherence to principles, and in his courteous treatment of all with whom he came in contact, he set us all an excellent example.

I heartily regret that circumstances make it impossible to be with you this afternoon.

Véry truly yours,

SAMUEL B. WARD.

The Secretary moved that the President appoint a committee of three to draw resolutions upon the death of Dr. Freeman. Seconded. Carried.

The President appointed Drs. Curtis, Cook and Tucker.

Dr. TUCKER said that in Dr. Freeman, death had removed one of the oldest members of the Society. Dr. Freeman had graduated from the Albany Medical College in 1846 and since then had spent most of his time in the practice of medicine in the city. He said that he remembered Dr. Freeman from the time of his (Dr. Tucker's) association with medicine. Dr.

Tucker was a student in the office of Dr. Armsby, who had married a daughter of Mr. Gideon Hawley, while Dr. Freeman had married another daughter of the same gentleman, so that the connection between Dr. Armsby and Dr. Freeman was especially intimate. Dr. Freeman was an old and valued member of the Fourth Presbyterian Church, and was sincere and indefatigable in the pursuance of his duties. While at no time an officer of the Faculty of the College he served faithfully and well in an onerous office which was indirectly a part of the institution, that of one of the Board of Curators. He held this office from 1867 to 1890, when the Board became non-existent. Many of those present here today have passed before him before their graduation from the College. He was one of the earliest members of the Alumni Association of the College. He was also a member of the Committee who had charge in the erection of the memorial to Dr. Armsby in Washington Park. In his death the profession loses one whose life has been a faithful example of all that a physician should be.

Dr. Curtis read a sketch of the life of Dr. Freeman which will appear in the ANNALS.

Dr. CURTIS on behalf of the committee offered the testimonial they had prepared as follows:

The Albany County Medical Society desires to place on the records of the Society a memorial of the life of Dr. Samuel H. Freeman with an expression of its satisfaction in the busy life well spent in our membership and his association with us, as a man of wide education and courteous and attractive character, always helpful and grateful in his memory. We also give form to our regret at his departure from us and would direct that this expression of our sentiments be spread upon the minutes of the Society.

F. C. CURTIS,
D. H. COOK,
W. G. TUCKER.

Dr. MOSHER moved that the expressions be adopted and spread on the minutes and that a copy be sent the family of our late member. Seconded. Carried.

Dr. MOSHER moved that the Society defray the expense of procuring a cut to be made from the photograph of Dr. Freeman to appear in the ANNALS with the sketch of his career. Seconded. Carried.

Upon motion the Society adjourned.

JAMES F. ROONEY, *Secretary*,
No. 123 Grand St.

Medical News

Edited by Arthur J. Bedell, M. D.

THE ALBANY GUILD FOR THE CARE OF THE SICK.—STATISTICS FOR FEBRUARY, 1906.—Number of new cases 96, classified as follows; district cases reported by the health physicians, 15; charity cases reported by other physicians, 81; patients of limited means, 46; total number of patients under nursing care during the month, 159.

Classification of diseases (new cases), medical, 25; surgical, 4; gynaecological, 4; obstetrical work of the Guild, 29 mothers and 28 infants; under professional care: dental, 4; skin, 2; throat and nose, 2; removed to hospitals, 3; deaths, 6.

Special Obstetrical Department: Number of obstetricians, 1; medical students in attendance, 2; Guild nurses, 2; cases, 1; number of visits by attending obstetricians, 1; by the Guild nurses, 16; total number of visits in this department, 28.

Visits of Guild nurses—(all departments). Number of visits with nursing treatment, 878; for professional supervision of convalescents, 173; total number of visits, 1,051; five graduate nurses and six assistant nurses were on duty. Cases were reported to the Guild by 4 of the health physicians, and by 32 other physicians and by 3 dentists.

OFFICIAL ORGAN OF THE NATIONAL ASSOCIATION FOR THE STUDY AND PREVENTION OF TUBERCULOSIS.—*The Journal of the Outdoor Life* which is published at the Adirondack Cottage Sanitarium, Trudeau, N. Y. (Saranac Lake), which has just entered on its third year, has been made the official organ of the National Association for the Study and Prevention of Tuberculosis. *The Journal of the Outdoor Life* deals with the outdoor treatment of tuberculosis in an intelligent and scientific manner. It does not advocate self-treatment by the laity, or attempt to supplant personal medical advice. It aims to point out the more common pitfalls that beset the unwary health seeker, and to awaken in its readers a healthful interest in an outdoor life. It advocates competent medical supervision, fresh air, nourishing food and carefully regulated exercise.

THE NEWBERRY LIBRARY.—THE JOHN CRERAR LIBRARY.—Arrangements have been completed for the transfer of the Medical Department of the Newberry Library, including, with the permission of Dr. Senn, the Senn Collection of Medical History, to the ownership and management of the John Crerar Library. This has been done partly because the natural relations of these books to the chosen field of The John Crerar Library and the lack of such relations to that of the Newberry Library make the transfer in many ways mutually advantageous, and partly because the medical profession of the city has urged strongly the desirability of a more central location. Unfortunately, however, the collection cannot be accommodated in the temporary quarters of The John Crerar Library, so that it will remain in its present location until the permanent building is completed.

BACK numbers of the ANNALS are wanted by Dr George Blumer, of San Francisco:—

1897—February, September, October.

1898—November, December.

1901—January.

1902—March, April.

Those having duplicates please inform the ANNALS.

THE GERMANTOWN HOMEOPATHIC MEDICAL SOCIETY OF PHILADELPHIA.—At its last meeting the Germantown Homeopathic Medical Society of Philadelphia resolved to place itself on record as opposed to the manufacture and sale of all patent medicines or nostrums of whatsoever sort, and requests all members of the medical fraternity to abstain from publishing their articles in any medical journal advertising patent medicines or nostrums.

This society commends all medical journals and all newspapers which abstain from advertising patent medicines and nostrums for their campaign against the patent medicines and nostrum business.

The Pure-food Commissioner of the State is commended for the work he is accomplishing in this direction, and this society pledges him its support in all future efforts of the same kind.

The public is cautioned against the use of patent medicines and nostrums as unscientific and dangerous to the general health and welfare.

NEW YORK SKIN AND CANCER HOSPITAL.—(Second Avenue, corner 19th street.) The Governors of the New York Skin and Cancer Hospital announce that Dr. L. Duncan Bulkley will give four special lectures on "The Principles and Application of Local Treatment of Diseases of the Skin," on Wednesday afternoons, March 21st and 28th; and that Dr. William Seaman Bainbridge will give a clinical lecture on "Malignant and Non-Malignant Growths," on Wednesday, April 18th, in the Out-Patient Hall of the Hospital at 4.15 p.m.

The lectures will be free to the medical profession.

EPILEPSY.—The transactions of the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics are being printed, and should be ready for delivery May 1st. They cover four years, 1902 and 1903 being in one volume and 1904 and 1905 being in the other volume. They will be well bound in very heavy, smoke-grey paper, stamped in gold, and will contain numerous illustrations. They are designed for library shelves. Three hundred copies only will be printed. The price, including the cost of carriage, will be \$2.75 for the two volumes. They will not be sold separately. Among the contributors to these volumes are the following:

PRESIDENTIAL ADDRESSES.

1902—Frederick Peterson, M. D., New York City.

1903—Wharton Sinkler, M. D., Philadelphia, Pa.

1904—William N. Bullard, M. D., Boston, Mass.

1905—William P. Spratling, M. D., Sonyea, N. Y.

Dr. W. P. Spratling, of Sonyea, N. Y., who is editing the work, will be glad to receive subscriptions.

AMERICAN GASTRO-ENTEROLOGICAL ASSOCIATION.—The preliminary program of the ninth annual meeting, to be held at Boston, Mass., June 4 and 5, 1906, has been issued:

1. President's Address: The Mutual Obligations of the Surgeons and Internists in the Proper Development of Gastric Surgery. H. W. Bettmann, Cincinnati.

2. Remarks on Banti's Disease. Max Einhorn, New York.

3. Demonstration of Gastric and Intestinal Movements. W. B. Cannon, Boston.

4. The Kidney in Gastro-Enterology. A. L. Benedict, Buffalo.

5. Paper. Franklin W. White, Boston.

6. A Further Consideration of the Gastro-Intestinal Disturbances Associated with Migraine. J. A. Lichty, Pittsburg.

7. Hypersecretion, Associated with Cirrhosis of the Liver. H. F. Hewes, Boston.

8. On the Influence of Rest, Exercise and Sleep on Gastric Digestion. Julius Friedenwald, Baltimore.

9. A Case of Hyperplastic Colitis: Extirpation of the Entire Colon, the Upper Portion of the Sigmoid Flexure and Four Inches of the Ileum. Morris Manges, New York.

10. A Case of Pyloric Stenosis in a Child of Five Years. S. W. Lambert, New York.

11. Recent Studies in the Diagnosis of Gastric Ulcer. J. C. Hemmeter, Baltimore.

12. Gastric Ulcer in Childhood. Harry Adler, New York.

13. Further Remarks on the Treatment of Chronic Round Ulcer of the Stomach. F. H. Murdoch, Pittsburg.

14. Spontaneous Rupture of the Colon from Violent Peristalsis, with Report of Fatal Case. G. W. McCaskey, Ft. Wayne.

15. Habitual Constipation Viewed from the Standpoint of Modern Evolution of Dietetics as a Physiologic Phenomena. C. D. Spivak, Denver.

PERSONAL.—DR. ALBERT VANDER VEER sailed for Europe on March 3rd. He will read a paper at the International Medical Congress held at Lisbon in April.

—DR. WILFRED S. HALE (A. M. C. 1894) is in the Holy Land for the winter.

—DR. FRED M. BARNEY (A. M. C. 1888) has removed from Dolgeville, N. Y., to Fisherman's Point, Caimanera, Cuba.

—DR. ARTHUR WILL (A. M. C. 1900) has sold his practice at North Creek, N. Y., and is doing post graduate work in Albany.

—DR. JOSEPH A. COX (A. M. C. 1901) after doing eight months post graduate work in Baltimore and Boston, has taken up practice in Albany at 332 State street.

—DR. GEORGE C. MERRIMAN (A. M. C. 1902) has removed to 512 North Washington avenue, Scranton, Pa.

—DR. FRANK WHEELER (A. M. C. 1902) has started practice at North Creek, N. Y., having purchased Dr. Will's practice.

—DR. FRANK G. SCHAIBLE (A. M. C. 1905) has been appointed resident pathologist to the Albany Hospital.

—DR. HERBERT B. REECE (A. M. C. 1905) has completed his service at Lying-In Hospital, New York City, and has opened offices at 282 9th street, Brooklyn, N. Y.

—DR. KENN R. COFFIN (A. M. C. 1905) is practicing at Olmsteadville, Essex County, N. Y.

—DR. H. A. BUSHNELL (A. M. C. 1905) is practicing in North Adams, Mass.

—DR. A. B. CHAPPELLE (A. M. C. 1905) is practicing at Pattikill, N. Y.

—DR. DONALD BOYD (A. M. C. 1902) has removed to Brooklyn, N. Y.

MARRIED.—WILL-LITTLEJOHN.—November 9, 1905, at Upper Montclair N. J., ARTHUR WILL (A. M. C. 1900) of North Creek, N. Y., and HILDA LITTLEJOHN, of Montclair, N. J.

—BUSHNELL-BOYNTON.—DR. H. A. BUSHNELL (A. M. C. 1905), of North Adams, Mass., and CAROLINE BOYNTON, of Schenectady, N. Y., recently, at Schenectady, N. Y.

DEATHS.—DR. ADELBERT D. HEAD (A. M. C. 1866), aged 63, died at Syracuse, N. Y., January 21st, 1906, after having had diabetes for nearly a year. Dr. Head was widely known; a member of the American Medical Association; New York State Medical Society; Syracuse Academy of Medicine.

—DR. GEORGE ARCHIE STOCKWELL (A. M. C. 1866) died at Houston, Texas, January 29, 1906, aged 59 years.

—DR. FORDYCE H. BENEDICT (A. M. C. 1868) died at Weedsport, N. Y., of pneumonia, March 8, 1906, aged 61 years.

—DR. JOHN U. HAYNES (A. M. C. 1872) died recently from cerebral hemorrhage, at his home in Cohoes, N. Y.

In Memoriam

SAMUEL HUNTINGTON FREEMAN, M. D.

A BIOGRAPHICAL SKETCH.

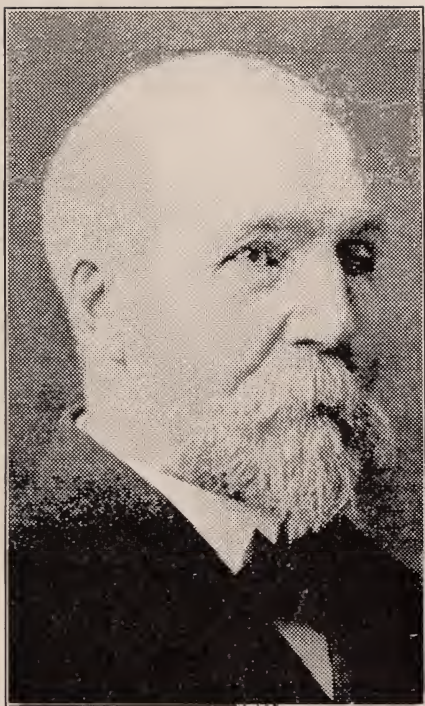
By FREDERIC C. CURTIS, M. D.

Dr. Samuel Huntington Freeman died at his home in Albany, March 15, 1906, at the ripe age of 86. His contemporaries have long since passed away. Considerably earlier on the stage of life, but long workers side by side with him, were March, the two McNaughtons, the elder Hun and Boyd, the brothers Staats; Armsby, his senior by ten years, and related to him by marriage, was long his associate in business; and of men of his own age were Vander Poel, Babcock, U. G. Bigelow and Joseph Lewi, all of whom many of us have personally known, but who dropped out of our life here years ago. Of the members of our County Medical Society there is not one living who joined the Society within twenty years of Dr. Freeman; the palm of seniority so thoroughly established has passed to others by a long step from 1846 to 1866.

Dr. Freeman was of New England lineage, born at Hanover, N. H., in 1820. In a sketch of the life of his uncle, Dr. Samuel Freeman, once a practitioner here, which he wrote for a collection of biographies prepared for the third volume of our County Medical Society Transactions, he says of his father, Hon. Jonathan Whitehouse Freeman (grandfather of our Dr. Freeman) that he was a member of the first Continental Congress, a member of the Committee of Public Safety, and for many years a trustee and treasurer of Dartmouth College. It is further said that he was a personal friend of George Washington, and a frequent visitor at Mount Vernon. He was a lineal descendant of Edward Freeman, who came from England in 1635 to the Plymouth colony; one of the first settlers of the township of Hanover, N. H., one of the founders of Dartmouth College, of which he was trustee and treasurer for forty years, and filled many important trusts in the history of the State and nation.

Dr. Freeman was born into an educational and patriotic atmosphere, his father being a life-long resident and office holder in Hanover. He prepared for college at the Kimball Union Academy, at an important anniversary occasion of which he delivered an address which brought him complimentary words from Daniel Webster and Oliver Wendell Holmes, who were present as participants of the event. He was graduated from Dartmouth College, as valedictorian of his class, in 1843, and studied medicine at Dartmouth Medical College, Dr. Oliver Wendell Holmes being then connected with the faculty; he filled out his medical study at the Albany Medical College, for which Alden March had won a reputation along with his then associates, Armsby, McNaughton, Beck, Bedford and Amos Dean, graduating in the class of 1846.

Albany was drawing not a few New Englanders, having been to within forty years entirely Dutch in its usages, population and architecture. There were already numerous names in the county medical society, which



SAMUEL HUNTINGTON FREEMAN, M. D.

had been established forty years before, of New England origin when Dr. Freeman became a member in 1846. He became closely identified in his work, as a man of education beyond that of the majority of his time, with Dr. March and Dr. Armsby, with the latter of whom he had for twelve years a partnership in professional business, and with whom he formed a closer relation by marriage to a sister of his wife, Miss Sarah Elizabeth Hawley, daughter of the Hon. Gideon Hawley, of Albany, in 1851.

In 1856 he became president of the county medical society, to which he was long an active contributor, and constantly filled its trusts of office, among them delegate to the State Medical Society, becoming a permanent member thereof when it was a prize indeed in 1862.

Various professional offices have been held by him; he was long a curator of the College, and a professorship was offered him which he never accepted; he was an attending physician to the Albany Hospital until he resigned with feebleness of health in later life. As has been our custom, his fiftieth year in practice was celebrated, but by his request in a modest way, in 1896.

His work has been that of the general family practitioner, and has been large and appreciated. He was a devoted member of the Presbyterian church, and has long filled the office of elder, and his voice and presence have been constant in the varied service of the church. In various activities of the city work has come to him. At the end of a well rounded life he could look back upon years well spent, work well done, friends made afresh and held as those of earlier time have dropped away, leaving behind a pleasant memory to all who knew him and whose paths have lain for various periods beside his along the lengthy way.

JAMES D. FEATHERSTONHAUGH, M. D.

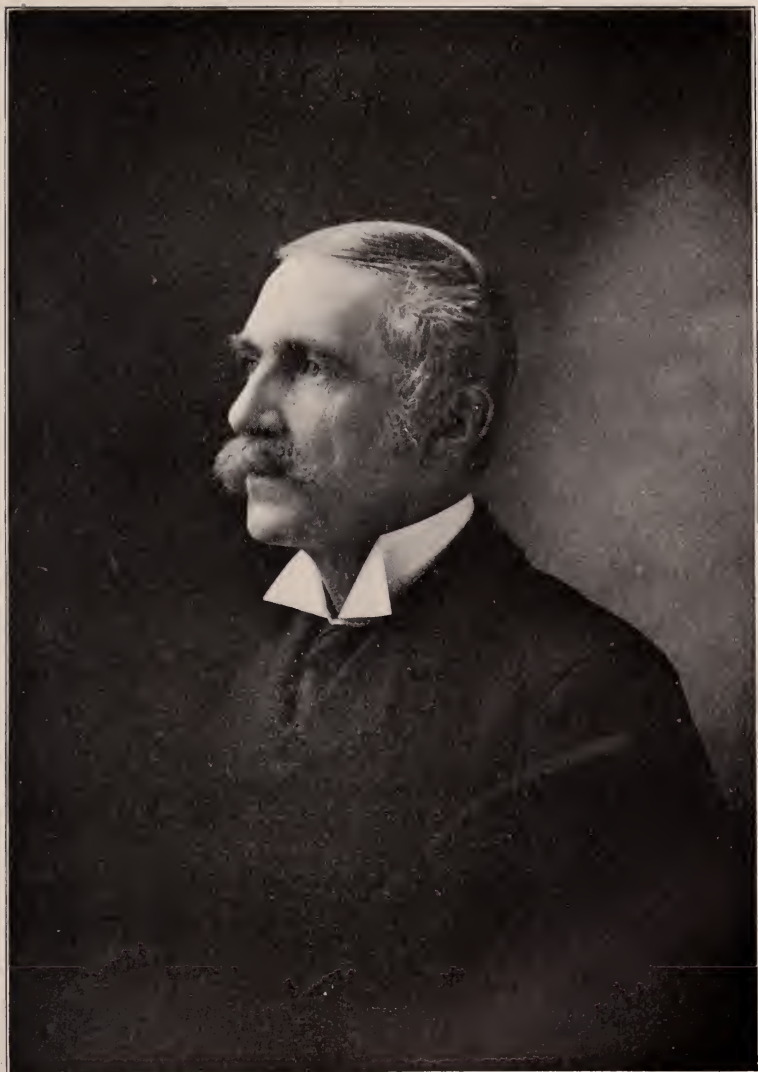
A BIOGRAPHICAL SKETCH

By WILLIS G. TUCKER, M. D.

It has been said that a man's education should begin with his grandparents and certainly he is fortunate who has behind him a line of educated ancestors. For the good fortune that may have attended his birth a man can claim no credit, but he may be thankful if, through the influences of heredity, he has been the recipient of those capacities, gentle traits and scholarly instincts which make it the easier for him to educate himself and which predispose to the formation of character. For a man is much as he is begotten, and heredity, in larger measure than either environment or education, determines character and destiny. We owe much to our ancestors and he that comes of a good stock makes an auspicious entry into life. Such an advantage did the subject of this sketch possess, and his natural abilities were developed by careful training, and his inborn traits by self-discipline and the experiences of life, and ever controlled by a will which was subservient to a sound reason.

Dr. James Duane Featherstonhaugh was born at the house of the British Legation at Washington, D. C., January 24, 1845. His mother, Emily Chapman, was a native of Washington and a niece of Dr. Nathaniel

Chapman of Philadelphia, and his father, who was attached to the legation and whose name he bore, was a civil engineer by profession and the younger son of George William Featherstonhaugh, born in London April 9, 1780, who had come to this country in 1806 for travel and had subsequently established himself at Featherstonhaugh Park in the town of Duanesburgh, Schenectady County, N. Y., where he married Sarah, daughter of Judge James Duane, November 6, 1808. Featherstonhaugh Park was a large place in the style of an English country residence, with a fine mansion, stately trees, commanding views and extended drives. Here he resided for many years and here on June 28, 1828, his wife died. A year later the house was destroyed by fire and he removed to New York where he engaged in literary work and later to Philadelphia where in 1832 he established the "Monthly American Journal of Geology and Natural Science," the first geological periodical issued in America. In 1833 he was appointed the first United States Geologist. In 1834 he carried on explorations in the South and in the Northwest and published, in 1835, his "Geological Report of the Elevated Country Between the Missouri and the Red Rivers;" in 1844 his "Excursion Through the Slave States;" and in 1847 his "Canoe Voyage up the Minnaw Soter." He was a man of remarkable and diversified attainments; an accomplished scholar, linguist and scientist. Among his friends were Stephen Van Rensselaer of Albany and with them originated the idea of a railroad between Albany and Schenectady and the success of this project was largely due to his tireless energy in enlisting friends for the enterprise and overcoming the obstacles which hindered the work at its inception. He took much interest in agriculture and was one of the organizers of the State Agricultural Society. In 1839 he returned to England, but having been appointed one of the commissioners on the part of Great Britain to adjust the disputed boundary line between Canada and the United States he came back to America to engage in this work. In 1844 he again returned to England and the succeeding year was appointed Consul of the Department of the Seine and Calvados, France. He removed to Havre and continued in this office until his death in 1866. His wife, Sarah Duane, was celebrated for her beauty and accomplishments. Her father's position had given her a wide acquaintance with distinguished men and there is now in the possession of one of her descendants an original portrait of Washington which he himself presented to her not long before his death. Her mother was the eldest daughter of Robert Livingston so that on both sides she was descended from distinguished families of American patriots. She left two sons, of whom the younger was the father of the subject of this sketch and in 1852 he became, upon the death of her sister, Miss Catherine Duane, the possessor of the Duane Mansion which she had built about 1810. This mansion is the last of the old family mansions located in Duanesburgh and is still in the possession of the family. It is a large and imposing house with a piazza seventy feet in length supported by eight massive columns and surrounded by beautiful grounds, shaded by stately trees and commanding an extended view of a beautiful country. To this place Dr. Featherstonhaugh loved to return and during his last illness he constantly planned to go back to it,



JAMES DUANE FEATHERSTONHAUGH, M. D.

hoping that in the quiet atmosphere of this old homestead he might recover the health and regain the strength that was ebbing more rapidly than he could comprehend.

Dr. Featherstonhaugh's father was born in Duanesburgh, August 8, 1815. He accompanied his parents to England in 1826 and returned to America in 1828 and entered Union College in 1830, and from this institution he was graduated in 1834, and associated himself with his father in the engineering and scientific work which he was carrying on. He married in 1844, returned to England in 1846 and lived in England and France until 1855, when he returned to Schenectady and there resided until his death in 1900. Of his three sons Dr. Featherstonhaugh was the eldest. He was taken abroad with his parents in infancy and received his early education in England and France. In the latter country great events were transpiring and his retentive memory preserved the recollection of some of the exciting scenes which attended the escape of Louis Philippe from Havre and in which his father and grandfather played a prominent part and of which he was himself a witness. The King and Queen were secreted in a small pavilion on the hills on the other side of the Seine and his grandfather at the Consulate was kept informed as to their movements and on the second of March, 1848, sent the vice-consul to the King with the details of the plan he had made for his escape. Dr. Featherstonhaugh remembered being present at a consultation which was held on the afternoon of that day to perfect these plans, and also in the evening when the boat which had been sent back to Honfleur brought the King and Queen in disguise to Havre; and he recalled accompanying his father to the dock and seeing them embark upon the steamer which conveyed them to England, where they found a refuge. These and other remarkable events of that exciting period very naturally produced a deep impression and they never faded from his mind although he seldom spoke of them.

Returning to this country with his parents in 1855 he attended Walnut Hill School at Geneva, N. Y., in 1857 and 1858 and then studied with a private tutor at Duanesburgh until 1861. From 1861 to 1863 he was again at school in Geneva and in the fall of the latter year he entered Union College, from which he was graduated with the degree of B. A. in 1867. He ranked high in his classes and made many friends in college among men who have become well known as leaders in the professions and in other fields of activity. He was a member of Sigma Phi and was subsequently elected to membership in Phi Beta Kappa. On leaving college and having decided to study medicine he entered the office of the late Dr. A. M. Vedder of Schenectady, a prominent practitioner and a surgeon of distinguished ability, and in 1868 he attended his first course of lectures at the Albany Medical College. Here the writer first made his acquaintance and a friendship began which remained unbroken until terminated by death. In Albany he made many friends and under the tutelage of such teachers as March, Armsby, McNaughton, Quackenbush and Mosher he made rapid progress. Two courses of lectures only were at that time required for graduation in medicine, and the next year found him in New York City where he continued his studies at the College

of Physicians and Surgeons, and from this institution he was graduated with the degree of M. D. in the class of 1870. The same year he received the degree of A. M. from Union College. He removed to Cohoes, N. Y., where a good opening for a young physician seemed to present itself, rented an office and laid the foundation for the successful practice which he subsequently established. The same year he was elected to membership in the Medical Society of the County of Albany and this society he served in 1875 as vice-president and in 1884 as president. In 1874 the Albany Medical College conferred upon him the honorary degree of Doctor of Medicine and in 1875 he was appointed a member of the board of curators of the college and served in this capacity until the abolition of the board in 1890. It was the duty of the curators to examine the candidates for graduation who had been passed by the faculty, the charter of the college requiring that they should join with the faculty in recommending such candidates as were approved by them to the board of trustees for the degree of doctor of medicine. The curators' examination, although largely a matter of form since objection was seldom raised to any candidate who had passed the faculty, was greatly dreaded by the students who could have no idea of the nature of the questions to be asked them by men who had taken no part in their instruction and who were indeed strangers to them, and the writer well remembers the careful preparation which Dr. Featherstonhaugh always made for the discharge of this rather distasteful and perfunctory duty. His questions were carefully chosen and skillfully propounded and so put as to draw from the candidate the best that was in him and exhibit such knowledge as he possessed in the most favorable light. There was no assumption of superior learning, no quibbling nor catch questions, but rather a cordial and courteous interrogation which soon put the student at ease and freed him from embarrassment. The delicacy and unflinching tact with which each year he performed his part in this much-dreaded ordeal will doubtless be long remembered by many of the students who appeared before him.

In Cohoes Dr. Featherstonhaugh soon took rank with the leaders in his profession. As surgeon to the Harmony Mills he gained a large experience in the surgery of accidents and his skill in dealing with the complicated cases which at any moment he was called upon to treat soon established his reputation as a surgeon. Naturally a student he made careful study of his cases, both medical and surgical, and as a general practitioner he was the beloved physician, wise counselor and faithful friend in hundreds of homes. But his time and energies were not exclusively devoted to his profession and, as a public-spirited citizen, he found time to give to public duties being ever ready to respond to the calls made upon him and to serve the public when his services were needed and to the best of his ability. He was a member of the board of Education in 1873 and 1874 and again in 1880-1882. In 1896 he was appointed a member of the Public Improvement Commission and secretary of the board; was reappointed in 1889, made president, and continued to serve with zeal and entire devotion to the public interest until his resignation in 1902. He was one of the founders of the Cohoes Hospital, and of the Training School for Nurses, and served as attending surgeon to the

former and one of the instructors in the latter. For a time he was health officer of the city, and in every position which he occupied he displayed that conscientious, intelligent and disinterested devotion to duty which characterized all his public and private acts and made his services invaluable to the community. He was a member of St. John's Episcopal church, and of Cohoes Lodge No. 116, F. and A. M.

On September 22, 1891, Dr. Featherstonhaugh married Caroline M., daughter of the late Robert Johnston of Cohoes. No children were born to them but their married life was marked by mutual devotion and the tenderest attachment, and there can be little doubt that the knowledge that her husband was suffering from a progressive and necessarily fatal disease shortened the life of the devoted wife if indeed it did not directly induce the seizure which terminated an ailment that had long been recognized as grave but had not greatly interfered with her comfort or with the discharge of her ordinary household and social duties. She died April 4, 1905, and up to within a few days of her death had been actively engaged in ministering with loving devotion to her husband's needs.

Dr. Featherstonhaugh's illness dated from September, 1904. Following the lifting of a heavy weight, which he regarded as the cause of his difficulty but which in reality may have but rendered active a latent tendency, he suffered from severe pain in the vicinity of the hip-joint which he attributed to the rupture of a ligament or some similar lesion. During the fall he was able to go about with the aid of crutches but with the approach of winter his condition grew more serious, the pain became more constant and distressing, and he reluctantly gave up his work and resigned himself to his bed. A consultation was held and his disease diagnosed but since no relief by operation was possible it was deemed wisest by his friends not to inform him of his condition and, almost to the end he was encouraged and sustained by the hope of recovery and in making plans for the future. The wisdom of such a concealment, amounting almost to a deception, may be doubted by some, but, since his affairs were in order and no interests could suffer, those who knew him best were clearly of opinion that it was the wisest course to pursue. The death of his wife was a great blow, and the last time he left his room it was to sit by her casket during the funeral services which were held at the house and which preceded those at the church on the opposite side of the street. These he was able to watch from the window by his bed, and to this bed he returned never to leave it again. During the spring he was entertained by visits from his friends, by reading and being read to, and when not in pain or depressed by the remedies given to relieve his suffering, he was wonderfully cheerful and courageous, enduring all his trials with infinite patience and a real Christian fortitude. Gradually his strength failed and despite all that the loving ministrations of relatives and friends, the untiring devotion of his professional advisers, and the intelligent and helpful services of a devoted nurse could do he continued to fail and finally passed quietly away on the afternoon of Saturday, October 21, 1905. On Tuesday, October 24, prayers were read at his residence after which funeral services were held at St. John's Episcopal church, of which he was a communicant, conducted by the rector, Dr.

F. S. Sill, assisted by Dr. O. H. Walser, pastor of the Reformed Dutch Church, of which his wife had been a member. The bearers were Messrs. E. Lansing, D. C. McElwaine and E. D. Hayward of Cohoes, and Mr. E. D. Ronan, and Drs. W. H. Murray and W. G. Tucker of Albany. Both of his brothers, Dr. Thomas Featherstonhaugh of Washington, and Mr. George W. Featherstonhaugh of Schenectady, were present, and a large circle of relatives and intimate friends, professional associates and representative citizens filled the church and bore testimony by their presence to the respect in which he was universally held. His body was interred in the Albany Rural Cemetery by the side of his wife. A special meeting of the Medical Society of the County of Albany was held on the ensuing day, at which his many professional friends found opportunity to express their admiration of his character and sorrow at his death, and a committee consisting of Drs. Archambeault, Witbeck, Mitchell, Curtis and Murray was appointed to prepare a memorial minute for entry upon the records of the society to the successful conduct of which he had so largely contributed.

And so has passed from earth one who while he lived did much to enrich it. Dr. Featherstonhaugh was a gentleman of the old school and of the best type. Gentle in his bearing, unailing in his courtesy, elegant in his manners, distinguished in his address, never aggressive nor ostentatious but always receiving the respect which was clearly his due, he naturally attracted attention and made many friends. And those who came to know him well recognized in him those peculiar tastes and traits which made his conversation delightful and his sympathy so broad and deep. He had the true scholar's love of literature and for the books in which the world's best thought is enshrined. His retentive memory enabled him to quote passages from his favorite authors when occasion rendered it appropriate, and his conversation was enlivened and enriched by such quotations and by similes and references drawn often from foreign writers yet in a way so natural and unaffected as to be free from any savor of pedantry. He was fond of nature and no less fond of art and being denied, by the demands that his practice made upon his time, opportunities for travel abroad or extended travel at home, he surrounded himself with pictures, curios and works of art, and he derived a deep if simple pleasure from frequent visits to the White Mountains, the Catskills and other much-loved spots. Everything beautiful appealed to him whether in art, literature, nature or character, and he derived a genuine and refined pleasure in dwelling upon beautiful things, but his mind was open, his disposition tolerant and his spirit catholic, so that he recognized the good in everything and could fellowship with honest men wherever he found them. During his last illness his mind turned often to the essentials of religious faith and he found great comfort in re-stating his belief in Christianity and its promise of a future life, but this he did neither assertively nor dogmatically but deferentially and modestly and in this spirit, courageously but resignedly, he passed from the known to the unknown "in the comfort of a reasonable religious and holy hope, in favor with God, and in perfect charity with the world."

JOHN U. HAYNES, M.D.

Dr. John Udolpho Haynes, one of the best known residents of Cohoes, died February 23, 1906, after an illness which extended over two years. Dr. Haynes was born in Nassau, Rensselaer county, and was fifty-six years of age. He received his medical education at the Albany Medical College, from which institution he graduated in the class of 1872. Thirty-three years ago Dr. Haynes began practice in Cohoes, and had been a practitioner until a short time ago. He was a member of the Albany County Medical Society and also of the State Medical Society. Dr. Haynes was a public spirited citizen; served terms as alderman and school commissioner, and was otherwise connected with the public life of Cohoes. He was a member of the Silliman Memorial Presbyterian church, and one of the trustees of that church. In 1875 he married Miss L. C. Hayward, who died fourteen years ago. One sister, Mrs. Mary Warden of Rensselaer, and his brother-in-law, Dr. Edward Hayward, superintendent of the public schools of Cohoes, survive.

Current Medical Literature**REVIEWS AND NOTICES OF BOOKS**

Differential Diagnosis and Treatment of Disease. A Textbook for Practitioners and Advanced Students. By AUGUSTUS CAILLÉ, M.D. D. Appleton & Company, New York and London, 1906.

"To bring the broad domain of practical medicine within the grasp of the family physician and to assist the advanced student in acquiring clinical foundation" has been the aim of the author in writing this book, which is intended to be of value in conveying clinical experience "without the exhaustive and often purely theoretical details to be found and sought for in monographs." It is also intended "to re-establish the relations of internal medicine, surgery and the several specialties."

All this is well, but it is to be feared that the book does not realize the high hopes of the author and publishers. The arrangement of the subject matter is complicated and unsatisfactory, the different subjects have not been considered with detail at all proportionate to their importance, the illustrations are exceedingly poor, many omissions of importance are to be noted and worst of all many serious errors are to be found in the text. If the author had not attempted to cover so much ground or had not had "the bulk of the work from his pen," the result might have been better.

The book is prefaced by an introduction in which the author discusses the present day status of medical affairs and especially the position of the general practitioner in his relations to his patients and to specialists and specialism. We hesitate to think that medical affairs are in such a sad state as he attempts to prove.

Dr. Caillé advocates the divorce of obstetrics and general practice for the main reason that a "general practitioner is at all times in contact

with contagious or communicable diseases and may, in fact does, infect parturient women," when "he comes from a case of scarlet fever or erysipelas." In almost the next paragraph however he says, "to counterbalance the deficit which must result from the loss of fees for obstetrical work, the general practitioner will have time and ambition to practice minor surgery. The practice of minor surgery is easy and it is generally more impressive to the laity than the writing of a prescription for a lot of useless superfluous drugs. Just how far the general practitioner may go in the practice of surgical handicraft will depend upon the taste and fancy of the individual." What is the difference between infecting a parturient woman and infecting a patient in the course of practice of easy and impressive surgical handicraft?

Chapter I and chapter I, concluded, deal with the general subject of diagnosis in the general and laboratory bearing. The author says, "It should be the aim of every general practitioner to become a good all around diagnostician, and if he fails in this let him drift into a specialty."

As a whole this chapter is very unsatisfactory, especially the parts devoted to laboratory methods. Much useless matter is here presented and many things are omitted. The statement that "cylindroids from the urine of cystitis have the same significance as hyaline casts" is certainly a new view. When he states that "white or clay colored stools are due to alcoholic conditions in which there is an obstructive jaundice," does he mean alcoholic? Animal parasites are very briefly and very poorly described. Among other matters for comment are the following: In the section upon sputum are found these two sentences, which in the case of the latter is the only description of the body. "Actinomyces colonies appear as small white partly calcified granules resisting considerable pressure;" "Curschman's spirals can usually be detected by the naked eye as whitish opaque spiral threads 1-10 millimeters in length." In the discussion of the examination of pharyngeal exudate for diphtheria bacilli occurs the sentence, "the morphological characteristics must be typical" but nowhere does he give the slightest hint as to what these are.

Chapter II is headed "General Therapeutical Management." The author's principal therapeutic remedies seem to be enteroclysis, calomel and quinine \AA gr. x. given either at the onset of any disease or as a "therapeutic feeler" in the course of any fever, and "five drops of dilute hydrochloric acid in sweetened water after meals to aid digestion." These remedies seem to have his almost universal use. Under diaphoretics he says, "The most powerful diaphoretic drug is pilocarpine which may be given in one twelfth to one eighth grain doses to children and adults every two or three hours until the desired effect is produced."

Chapter III is devoted to Paediatrics. We do not agree with the author in his statement in regard to the little value of bacteriological examinations of throat cultures in diphtheria. Would it be too much to inquire why masturbation in infants is placed under the general heading of eruptive fevers, to say nothing of vulvo-vaginitis and malaria. The classification of meningitis is extremely poor. The subject of cretinism demands too a better discussion than it here receives.

Chapters IV to X inclusive are devoted to the digestive system. Under appendicitis the author says "One broad rule governing the question of operative interference in appendicitis should be not to operate in chronic cases unless you can feel the diseased appendix, nor in acute cases unless by palpation you can recognize either the diseased appendix or the presence of a tumor. Anaesthesia may be necessary in exceptional instances to decide the question." Were this rule adhered to it is to be feared that the present mortality from this condition would be even greater than it is. Perhaps this is an example of the minor surgery which a general practitioner should do. "Gall-stones may be divided into two classes, those produced by the colon bacillus and those by the typhoid bacillus." Acute haemorrhagic pancreatitis is discussed in nine lines; surgical treatment is not mentioned. Intestinal parasites deserve a more thorough and accurate discussion than they receive especially in view of their more general presence in this country since the acquisition of tropical territory by the United States, and the notable work of Stiles in the United States and Ashburn in Porto Rico upon the *Uncinaria Americana* or hook-worm.

Chapters XI to XIV inclusive are devoted to the circulatory system. Personally we see no reason for placing all the diseases of the blood in this section, but this may perhaps be a matter for discussion; however, there is surely no reason for including the discussion of all oedemas, or collections of fluids, cystic or otherwise, among which may here be found such diverse conditions as hydrocephalus, spina bifida, pulmonary oedema, malignant oedema (and anthrax) myxoedema (?) hydatid cysts hydronephrosis and retention cysts of the kidney, hydrosalpinx, ovarian cysts, etc. Chronic endocarditis is considered separately from chronic valvular disease. Under diagnostic methods the author considers a stethoscope as only "an aid to a dull ear." He advises the exploratory needle puncture of a suspected aneurysm as a routine method of examination. Under a treatment of aneurysms he makes no mention of the Tufnell diet or other dietetic methods.

Septicaemia and pyaemia are briefly referred to in this section, but septic wounds are found under miscellaneous affections in Chapter XXXI.

Chapters XV and XVI are given over to the respiratory system. We notice here under acute lobar pneumonia a new classification for the stages of pneumonic consolidation. It is, one, catarrhal stage; two, haemorrhagic stage; three, stage of red hepatization; four, stage of resolution. He says "The haemorrhagic stage is followed by a stage of red hepatization; the alveoli become filled with red blood corpuscles and fibrin. The latter coagulates and the whole haemorrhagic contents of the alveolus becomes a firm red plug. In the stage of resolution the fibrin undergoes granular disintegration and the cells undergo fatty metamorphosis."

In chapters XVII to XIX inclusive the Genito-Urinary System is discussed including gynecology.

Chapters XX to XXV inclusive are devoted to the osseous and muscular and articular systems, including orthopedic memoranda, massage, Swedish movements, hot air treatment, etc.

Chapter XXV is given over to infectious and contagious fevers. As a

whole this section is pretty good but there are several points which we feel need comment. We fail to see the necessity for disinfecting an ambulance in which a typhoid fever case has been transported. It is surprising to find that the author states that the pulse in (uncomplicated) cases of typhoid fever rises to 110 in the first week of the disease and to 120 to 130 in the second week, as it is pointed out by all authorities that in this disease the pulse is usually very low in proportion to the temperature and rarely exceeds 100 to 110 per minute. In the temperature and pulse chart which accompany the article we note that the pulse never but once exceeds 110 and rarely reaches 100. In the discussion of malarial fever, both in its clinical and laboratory aspects, the malarial parasite is never described, nor are any definite statements made in regard to the nature of the infecting organism. In the author's remarks upon yellow fever however, the most striking omissions and errors are found. The author credits the bacillus of Sanarelli as being the probable causative agent and dwells upon the positive agglutinative reaction of the blood against this organism. He says, "The infection is disseminated by the excreta and by the mosquitoes which carry the blood and inoculate those who are subsequently attacked." He refers briefly in the discussion of the prophylaxis, to the "drainage and attention to other details of the health of a city" as exemplified by Havana, but he says not a word, except those in italics, upon the etiology and mode of transmission of the disease mosquitoes as based upon the work of the United States Army Board in Cuba and their epoch making studies, and leaves one the impression that yellow fever is transmitted from person to person very much as is typhoid fever.

Such errors in an American work are well nigh inexcusable.

Chapter XXVI concerns diseases due to faulty metabolism, to faulty internal secretions and to derangements of the ductless glands. Chapter XXVII deals with the diseases of the nervous system in which are discussed puerperal eclampsia and sleeping sickness (Trypanosomiasis) among the purely neurological ailments. Chapters XXVIII to XXX are headed respectively—Dermatological memoranda, Otic memoranda and Ophthalmic memoranda. Chapter XXXI deals with miscellaneous affections which for reasons best known to the author, were not considered elsewhere. In Chapter XXVIII we note the author considers elephantiasis under vegetable parasitic skin diseases.

The illustrations with which the book abound may be divided into the following classes: One, those that would not show anything of value were the photographs well taken or the plates well reproduced; two, those that are useless on account of the photographs being poorly taken, (lighting or arrangement of subject) or the plates poorly made; three, satisfactory illustrations. The last class is by far the smallest. In the photographs several are apparently excellent portraits of nurses or the attending physicians in the clinics but this feature hardly makes them suitable illustrations for a text book.

The book contains many good sections but they are so buried in material of less merit that they are difficult to find.

Cleft Palate and Hare Lip. By W. ARBUTHNOT LANE, M.S., F.R.C.S., Surgeon to Guy's Hospital, and Senior Surgeon to the Hospital for Children, Great Ormond Street. The Medical P Company, Limited, London. 1905.

In this extremely and interesting and valuable monograph the author begins with a careful study of the factors which influence the growth of the naso-pharynx and the mouth and the bones which surround these cavities. He demonstrates conclusively that the mechanical influence of the passage of air is of the greatest importance in the development not only of the naso-pharynx, but also to the bones of the face. Secondary to such disturbances of development the jaws become more or less misshapen and the teeth irregular and deformed. The influence of faulty development of the mouth and naso-pharynx upon the general attitude of the patient is pointed out and certain postural deformities are shown to bear direct relationship to them.

When, as in cleft palate, the septum between the mouth and the naso-pharynx is incomplete the development of the bones of the jaws and face will be more or less faulty and deformed. This demonstrates the necessity for the correction of such deformities as early in life as possible. The writer calls attention to the generally accepted belief that the most favorable time for such operations is between the ages of three and six, and states it as his belief that this is an untrue statement and a dangerous doctrine. He urges the performance of the operation for cleft palate as soon after birth as possible, preferably within a day or two. The hemorrhage is insignificant, the capacity for repair is the best, the digestion unimpaired and the risk of life ordinarily trivial.

The operation performed by the writer is described in detail, the essential characteristic of it being the raising of a flap upon one side of the cleft sufficiently large to completely close the opening. He advises the closure of the cleft palate first in all cases, the closure of the hare lip, if one exists, being left until the palate is healed. The monograph is well illustrated, and on the whole is perhaps the most satisfactory presentation of the subject which has yet appeared.

A. W. E.

Abdominal Operations. By B. G. A. MOYNIHAN, M. S. (LONDON), F. R. C. S., Senior Assistant Surgeon to Leeds General Infirmary, England. Octavo of 695 pages, with 250 original illustrations. Philadelphia and London: W. B. SAUNDERS & COMPANY, 1905. Cloth, \$1.00 net.

This volume represents largely the author's methods of abdominal operations as based upon his own experience. No gynecological operations are described, nor is the surgery of those organs, such as the kidney and bladder, which are partly intraperitoneal and partly extraperitoneal, included. No mention is made of the operations for hernia. The volume is subdivided into five sections.

Section one presents the so-called "general considerations," such as the

preparation of operator and patient, the complications of abdominal operations, modes of incision of the abdomen, the operations for peritonitis, subphrenic abscess, penetrating wounds and visceral prolapse. The technique described is excellent and the methods proposed are on the whole satisfactory.

Section two deals with the operations upon the stomach, which have come to play such an important role in abdominal work. In this section the author is perhaps at his best, because of his wide experience.

In section three the operations upon the intestine are described. Neither in this nor the preceding section is any mention made of mechanical devices for intestinal anastomosis. The author distinctly states that this omission is deliberate, because he regards these devices as of historical interest only, their practical utility having ceased; a view to which many surgeons will not readily subscribe.

In section four operations upon the liver and bile passages receive adequate consideration, and here, too, the author's vast personal experience makes his methods of especial value.

The concluding section deals with the operations upon the pancreas and spleen, and presents the rather limited surgery of these organs in a satisfactory fashion.

Practically no attention is paid to etiology, pathology, diagnosis or prognosis of the conditions referred to in the volume, the subject matter being occupied entirely with the more practical side of abdominal surgery. The views of other surgeons are not infrequently presented, but that method is always regarded as the best which has proven of the greatest service in the hands of the author, so that his individuality is stamped upon every page. While the volume presents comparatively little that is new, it is nevertheless a valuable contribution to the subject of abdominal surgery and will prove a handy reference book for the surgeon.

It contains 694 pages and 235 illustrations and is in every way a splendid example of book making. The illustrations are well executed and add greatly to the value of the work. To every practicing surgeon the volume will be welcome because it presents the results of the experience of one of the best surgeons of this generation.

A. W. B.

Minor and Operative Surgery, including Bandaging. By HENRY R. WHARTON, M. D., Professor of Clinical Surgery in the Woman's College; Surgeon to the Presbyterian Hospital, Philadelphia, etc. New (6th) edition, enlarged and thoroughly revised. In one 12mo volume of 642 pages, with 532 illustrations. Cloth, \$3.00, net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

Wharton's Surgery does not need an introduction to the student or practitioner of medicine. It has been too long before the medical world not to be well known, and that the book is needed and appreciated is attested by the fact that this is the sixth edition of the work.

It comes from the publisher's hands with a new name, both title and scope being broadened, and will no doubt meet the greater demands

made upon it. This edition takes up Minor and Operative Surgery and includes Bandaging.

The subject of bandaging is treated in detail, after giving some general considerations as definitions, varieties of bandages, etc. Bandages for every part of the body are carefully described, the name, dimensions, method of application and use being given. Excellent illustrative plates accompany each description and aid not a little toward a more ready understanding of some of the different bandages. Some valuable points may be obtained from reading the chapter on hardening bandages, as this deals with the method of preparation and application of plaster of Paris dressings.

Part II takes up Minor Surgery, and under this heading are included materials used in surgical dressings, most of the minor surgical procedures, the x-rays, anesthetics, catheters and bougies, treatment of hemorrhages, shock, abscess, wounds, burns, scalds and sprains.

In Part III are considered asepsis and antiseptics, and there is a thorough discussion in regard to surgical bacteriology, included under which are immunity and varieties of bacteria, and the agents employed for the destruction of the latter, also a detailed description of the preparation of materials used in aseptic operations.

Parts IV and V deal with fractures and dislocations respectively, and in each a concise manner give the more improved methods for treating each.

Part VI treats of ligation of the more important arteries, and Part VII of amputations.

Part VIII, the last portion of the book, deals with excisions and resections and some of the special operations. Under the latter the author includes a number of operations which are frequently required in practice, such as the operations for strangulated hernia, appendicitis, also tracheotomy and intubation of the larynx.

Just why some major operative procedures are included and others omitted, is hard to say, although the author undoubtedly included those which he considered necessary. As only a few, comparatively, of the special operations are described, there is no attempt made of a proper classification, and this gives the closing chapter of the book a somewhat jumbled appearance.

There are over six hundred pages in the volume and it is plentifully supplied with good illustrative plates. The index at the back is well done.

E. F. S.

A Text-Book of Physiology. For Medical Students and Physicians. By WILLIAM H. HOWELL, PH. D., M. D., LL. D., Professor of Physiology, Johns Hopkins University, Baltimore. Octavo volume of 905 pages, fully illustrated. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, \$4.00 net; Half Morocco, \$5.00 net.

A volume of 886 pages with 271 illustrations which presents the fundamental facts of physiology, its principles and mode of reasoning, in so

clear and comprehensive a manner that it must be considered the most satisfactory of English textbooks on this subject

The writer, in order to reduce the vast knowledge of physiology to the needs of the elementary student has adopted a policy of elimination and selection rather than one of condensation. The results of this method are most happy. Dr. Howell has not been content with the presentation of the well known principles of physiology concerning which there is a unanimous opinion but has attempted also to bring the student in touch with those problems which indicate the continual readjustment of the theories, not only of physiology, but of medicine in general. Short historical résumés give the student a knowledge of the development of various phases of physiology while well selected references offer him an opportunity to readily examine original sources.

Nervous and Mental Diseases. By ARCHIBALD CHURCH, M. D., Professor of Nervous and Mental Diseases and Medical Jurisprudence in Northwestern University Medical School, Chicago; and FREDERICK PETERSON, M. D., President of the State Commission in Lunacy, New York; Clinical Professor of Neurology and Psychiatry, Columbia University. Fifth edition, revised and enlarged. Octavo volume of 937 pages, with 341 illustrations. Philadelphia and London; W. B. Saunders & Company, 1905. Cloth, \$5.00 net; Half Morocco, \$6.00 net.

The eminently practical character of this work justifies its popularity and explains the rapid issue of necessary editions—five in five years. Dr. Church has prepared chapters on Zoster, in conformity with Head's investigations, Hereditary Trophic Oedema, Intermittent Limping, Family Periodic Paralysis and Family Tremor. Dr. Peterson gives a short outline of his understanding of Dementia Praecox and Manic Depressive Insanity, but with rare good judgment in these days of stress, adheres to his original plan of a comprehensible description of mental disorders, the philosophical description of the views of the German School being arrayed in parenthetical small type, so that the reader interested may study this academic disquisition if he desires.

Modern Clinical Medicine. Diseases of Metabolism and of the Blood, Animal Parasites, Toxicology, Edited by RICHARD C. CABOT, M. D., Instructor in Clinical Medicine in the Medical School of Harvard University. An authorized translation from "Die Deutsche Klinik," under the General Editorial Supervision of JULIUS L. SALINGER, M. D. With one colored plate and fifty-eight illustrations in the text. New York and London: D. Appleton & Company, 1906.

A volume of 649 pages, translated directly from "Die Deutsche Klinik" and comprising nineteen contributions concerning Constitutional Diseases. Except in chapters devoted to diseases of the Blood, practically no changes have been made by the editor.

The subjects treated are as follows:

The Quantitative Analysis of Disturbances of Metabolism in the Clinic

(Weintrand); Over-Nutrition and Under-Nutrition (v. Noorden); Diabetes Mellitus (Naunyn); Diabetes Insipidus (Gerhardt); Gout and Obesity (Ebstein); Myxedema with Special Reference to Organotherapy (Ewald); Addison's Disease (Reiss); Acromegalia (Benda); Chronic Articular Rheumatism (W. His); Pentosuria (Blumenthal); Blood and Blood Examination (Lazarus); The Anaemias (Ehrlich); Chlorosis (E. Grawitz); Leukaemia (v. Leube); Pseudo-leukaemia (Hodgkin's Disease and Banti's Disease), (Senator); The Haemorrhagic Diatheses (Litten); The Animal Parasites of Man (Peiper); Important Poisons and Their Treatment (v. Jaksch).

In each contribution the object has been to present clearly the rationale of the symptomatology and treatment of the conditions under consideration. The volume is therefore of inestimable value to physicians seeking an authoritative discussion of the care of those still more or less obscure conditions. A well arranged and comprehensive general index adds greatly to the value of the work.

Lectures on Auto-Intoxication in Disease, or Self-Poisoning of the Individual. By CH. BOUCHARD, Professor of Pathology and Therapeutics; Member of the Academy of Medicine and Physician to the Hospitals, Paris. Translated, with a Preface and New Chapters added, by THOMAS OLIVER, M.A., M.D., F.R.C.P., Professor of Physiology, University of Durham; Physician to the Royal Infirmary, Newcastle-Upon-Tyne; Formerly Examiner in Medicine, Royal College of Physicians, London. Second Revised Edition. Crown Octavo 342 pages, Extra Cloth. Price, \$2.00 net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

The second English edition of this work appears without revision by Professor Bouchard. While this has resulted in the retention of the original text Dr. Oliver by careful revision of the translation and by the addition of new material has prepared a very satisfactory summary of the subject of auto-intoxication. The additions include paragraphs on the intestinal toxins, the toxæmia of pregnancy, the toxicity of indol, etc. In an appendix Dr. Oliver presents a chapter on the "Natural Defense of the Organism against Disease" and one on "Auto-intoxication of Intestinal Origin."

The Physical Examination of Infants and Young Children. By THERON WENDELL KILMER, M. D., Adjunct Attending Pediatricist to the Sydenham Hospital; Instructor in Pediatrics in the New York Polyclinic Medical School and Hospital, New York; Attending Physician to the Summer Home of St. Giles, Garden City, New York. Illustrated with 59 Half-tone Engravings. 12mo., 86 Pages. Bound in Extra Cloth. Price, 75 cents net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia, Pa.

The object of the author so stated in the preface is to instruct the students and physicians how to examine a baby. To accomplish this he has prepared the small treatise before us. It consists of eighty-five pages

in all, a considerable portion of which is taken up by fifty-nine half-tone engravings and a number of tables. Suspicion, palpation, auscultation and percussion are taken up in succession and a few pages are devoted to the examination of the throat, nose, ears and eyes. The author gives a number of valuable suggestions which have been gleaned from an extensive experience with children. A work as outlined by the author is much to be desired and would fill a decided need. Our criticism of the present volume is that it lacks the thoroughness and scientific value which would be expected from one who has had the clinical experience of the author.

H. L. K. S.

OPHTHALMOLOGY

Edited by Charles M. Culver, M. D.

Is the Use of Electric Light Injurious to the Human Eye?

DRAKE-BROCKMAN. *The Ophthalmoscope* (London), October, 1905.

This question has presented itself to the ophthalmologist, with increasing insistency, since electricity has become used as a source of artificial illumination. The author says that cases have come under his observation, in which impairment of vision seemed ascribable to no other cause than the use of electric light. Such patients have been, oftenest, young persons at schools. Not having had opportunity to test, experimentally, the effects of electric light on the optic nerve, the author's suspicions of its pernicious influence have been aroused merely by clinical observation of the cases reported in this article.

An article by Ed. Mettey, in the *Archives d'Ophthalmologie*, for April, 1904, is quoted. The article was entitled: "Experimental Researches upon Injury, of the Eye, produced by Electric Light;" its conclusion is as follows: "It may be assumed that the human eye, exposed to electric light, comports itself as does the eye of rabbits and dogs under similar circumstances. Slight cases of electric dazzling, where recovery is the rule, are due to reparable lesions. On the other hand, severe cases, accompanied by diminution or loss of visual functions, are due to irreparable lesions, leading to descending degeneration of the fibres of the optic nerve. No definite statement can be made as regards the particular rays that cause the mischief."

Sufficient evidence is to be found, in the current medical literature of the day, pointing to the injurious effects upon the skin and structures developed from epiblast, when these have been exposed to the X-rays, and it may be concluded that similar injurious effects are likely to be produced upon the retina and optic nerve fibres, when exposed to the influence of electric light as an illuminating agent in ordinary, every-day work. In using electricity we are dealing with a force of the properties of which we have but limited knowledge and it is not unreasonable to fear that, in the ordinary lighting of rooms by electricity, and more so in schools and similar public places, some rays may act injuriously on the retina and optic nerve fibres, as they undoubtedly do on the skin structures. Concerning this, the last sentence of the above quotation from

Mettey's article is repeated in the one being abstracted. The title of the article is a question concerning a matter on which the author hopes others, more capable than himself, may be willing to throw more light. Another quotation, from an article on "Chronic X-ray Dermatitis" is made. This seems to the present writer to be of doubtful pertinency. Six cases are reported:

Case 1. Male, aged 20, consulted the author at the end of September, 1901, because of impaired vision for study and reading; is a student at a large public school where electric lighting obtains. Vision steadily failing. When the right eye had a minus sphere and the left a minus cylinder, of one dioptre and half a dioptre, respectively, the patient had normal visual acuity. The conjunctivæ were congested and the eyes easily irritated by exposure to electric light. He was advised to abandon the use of electric light and to use a good kerosene lamp or candles. The patient reported later that he had acted on that advice and that all inconvenience had ceased.

Case 2. Male, aged 18, consulted the author in April, 1904; was a student under similar conditions with those of Case 1; was studying for the army, needed to use electric light, was well developed and athletic. Had lately experienced increasing difficulty in studying evenings. Was myopic by one dioptre, in each eye. Was advised to use lamp or candle light when an artificial one was necessary. Two months later all difficulty in use of eyes had ceased, in consequence of acting on the author's advice.

Case 3. Male, aged 13, consulted early in May, 1904, with the same complaint as in the two cases already noted; the symptoms, also, were the same, except that epiphora likewise existed. His refraction was normal. The prescription was abstinence from work by electric light; likewise a collyrium of cocaine and boric acid. Fourteen weeks later all symptoms had been "removed" and the patient was quite well.

Case 4. Sex not stated, age 13, consulted in November, 1903. History nearly identical with that of Case 3. Prescription and result also the same.

Case 5. Girl, aged 10, consulted late in November, 1904. History the same as in Cases 3 and 4, except that there was no lachrymal obstruction. Treatment also the same as in those cases. Result not reported.

Case 6. Male, aged 69, consulted in March, 1904, in great distress because of his diminished power to read at night. Had lately had electric light installed at his home and frequented a club in which that light was used. Had never, previously, had trouble in reading by artificial illumination; was myopic; had no lenticular opacity. The treatment was identical with that described in Cases 1 and 2, with an optical prescription added. After following the author's instructions for a month, the patient reported that all his difficulties had been removed.

A New Operation for Moderate Shortsight.

E. E. MADDOX. *British Medical Journal*, October 21, 1905.

The patient was a boy of sixteen, disqualified for entrance to Woolwich by myopia of low grade. Maddox decreased this, to the extent of enabling the patient to pass the required examination. The treatment was opera-

tive and consisted in flattening two mutually perpendicular meridians of the cornea, with an interval of forty-six days, between the operations. The method adopted was to dissect up a flap of the conjunctiva, in the transverse meridian of the eye, and pass a keratome between the conjunctiva and sclera, into the anterior chamber. The incision was enlarged, above and below, with a probe-pointed knife, in order to extend it as much as possible. The second operation consisted of a large incision, made at the lower margin of the cornea, with an ordinary cataract knife.

Trunecek's Serum, in the Treatment of Glaucoma. (El Suero de Trunecek en el tratamiento del Glaucoma.)

G. SANCHEZ AGUI'ERA. *Archivos de Oftalmologia Hispano-Americanos, September, 1905.*

After a historical review of more than a dozen relatively unsatisfactory operative forms of treatment of chronic glaucoma, the author considers the more modern serum-therapy of Trunecek, which has given such fine results in tuberculous osteo-arthritis. Likewise in arterio-sclerosis has this therapy shown good effects. Valude used this serum in cases of retinal detachment, injecting it, under cocain analgesia, into Tenon's capsule. In view of the relation between arterio-sclerosis and glaucoma, it became naturally suggested to use the same method in the latter disease.

Trunecek's serum consists of a solution of the unorganic salts of the blood-serum and one hundred grams of distilled water contain:

0.44	sodium sulphate;
4.92	sodium chloride;
0.15	sodium phosphate;
0.21	sodium carbonate;
0.40	potassium sulphide.

This was used by subcutaneous injection, at first in doses of three grams, in a few days increasing this to five grams of the solution.

As to the results! Nine cases were so treated, all of chronic glaucoma simplex. Myotics were used at the same time; there were no operations. The treatment lasted for ten months. In six cases the visual acuity remained unchanged, in two cases it diminished considerably, while in one case it rose from 0.2 to 0.4, according to Landolt's method of enumeration. The tension, which, in six cases, was plus one, became normal. The general condition was improved, in most of the cases. The author compares these results with those in nine other similar cases of the same disease, which were treated with myotics and the iodid. In these latter, the acuteness of vision did not remain the same for six months in more than three cases, while it slowly decreased in the six others. The tension changed in but four cases, remaining the same in all the others. One of these patients died of apoplexy. There is not much to be concluded from these cases and their comparison, because, in the first place, they are too few and, again, the time, during which they have been observed, is too short. At the same time they suffice to justify the use of Trunecek's serum.

ALBANY MEDICAL ANNALS

Original Communications

UTERINE MYOMATA SIMULATING PREGNANCY; WITH SPECIAL REFERENCE TO THE SUBMUCOUS VARIETY.

Read before the Medical Society of the County of Albany, January 10, 1906.

BY JOHN A. SAMPSON, M. D.,

Gynecologist to the Albany Hospital; Lecturer on Gynecology, Albany Medical College.

The differential diagnosis between uterine myomata and pregnancy may be so difficult that the best diagnosticians, after a most careful study of the case, may be uncertain as to the condition present. Before definitely ascertaining which it is, it may be necessary to study the case over a long period of time, or make an examination under ether, or even an exploratory laparotomy. After all these precautions have been taken the abdomen may be opened and closed without removing a myomatous uterus or the more serious mistake may be made of removing a pregnant uterus thinking that the uterine enlargement was due to a fibroid tumor. On the other hand, if the cases are very carefully studied, these mistakes should rarely occur.

The following groups of cases may be considered as sometimes offering difficulties in the differential diagnosis between pregnancy and conditions simulating it:

(I) uterine pregnancy, normal or atypical, or with complications other than tumors;

(II) uterine pregnancy complicated by myomata or other tumors:

(III) extra-uterine pregnancy, alone or with other tumor formations;

(IV) tumors other than uterine myomata simulating pregnancy;

(V) adipose tissue in the abdominal wall and omentum, especially if there is a rapid increase in weight, may simulate pregnancy or an abdominal tumor;

(VI) myomata unaccompanied by pregnancy.

I. *Uterine Pregnancy Simulating a Myomatous Uterus.* Pregnancy occurring under conditions where it seems impossible, especially if the patient purposely misleads the physician, may render the differential diagnosis difficult. If the pregnancy is atypical, the diagnosis may also be difficult. It may occur in a bicornuate uterus or develop in one portion of the uterus more than another, thus giving rise to an asymmetrical enlargement of that organ; or the uterus may be retroflexed; or the menses may persist (rare); or there may be irregular bleeding due to some associated condition such as a cervical polyp. Any of the above may be confusing, and unless the case is carefully studied an error in the diagnosis may be easily made.

II. *Uterine Pregnancy Complicated by Myomata or other Tumors.* The gradual increase in the size of a previously known case of a myomatous uterus may be due to an associated pregnancy and also an ovarian cyst may become evident by being displaced by a pregnant uterus. While myomata may be looked upon as a cause of abortion and faulty presentations, and should the pregnancy continue until term, even offer such a serious obstacle to labor as to demand operative interference; nevertheless many children are born every year from myomatous uteri, and the myomata, if large, have become softened by the pregnancy, and were so situated, or so adjusted themselves, as to in no way interfere with the natural course of the pregnancy or labor.

Pregnancy complicated by a uterine or ovarian tumor may easily be overlooked, especially in the early months of pregnancy, as shown by one of my cases at the Johns Hopkins Hospital (at that time I was resident gynecologist to the hospital).

Gyn. No. 10760. The patient, who was 40 years old, a XII Para (19 years to 21 months), very large, and whose menstrual periods were irregular, complained of abdominal pain. On bimanual examination, a tumor, the size of one's fist, was felt to the left of the uterus and the latter seemed slightly enlarged and adherent; the cervix was hard. A diagnosis of a myomatous uterus or an ovarian cyst with pelvic adhesions was made and pregnancy was not considered. On opening the abdominal cavity, a pregnant uterus of about six weeks duration was found and a paro-ovarian cyst. The adhesions about the uterus were severed, and

the cyst removed. The patient did not abort but left the hospital at the end of twenty-one days feeling well and free from pain.

III. *Extra-uterine Pregnancy Simulating a Myomatous Uterus.*

This condition may simulate an intra-uterine pregnancy or a myoma. This is especially true when a tumor is formed by the encapsulation of a collection of blood resulting from a tubal abortion or rupture. The tumor mass may be situated mesially, thus simulating a pregnancy or laterally, thus more closely imitating a myomatous uterus, and its usual intimate association with the uterus may sometimes make the differential diagnosis very difficult between intra-uterine pregnancy, ruptured encapsulated extra-uterine pregnancy and a myomatous uterus.

The above is well shown in the following two of my cases.

Case I.—Age 34, I. Para (16 years), was admitted to the Johns Hopkins Hospital in July 1904, Gyn. No. 11,410. She complained of abdominal pain, and thought that she might be pregnant.

Patient had not menstruated for ten months, when about four months pregnant she was admitted to another hospital for threatened abortion. The bleeding ceased in a few days and she considered herself pregnant because she could feel the abdominal tumor, and her physicians assured her that she was. She waited ten months and as the tumor had not increased in size she came to the Johns Hopkins Hospital.

On examination, the breasts contained colostrum, the cervix was found to be hard and the body of the uterus was drawn to the right and continuous with a mass extending as high as the umbilicus, the mass felt like a pregnant uterus, a soft myoma or an ovarian cyst.

At operation the uterus, tubes and ovaries together with a mass of encapsulated blood clot containing a partially mummified four months fœtus were removed. (See Fig. 1). Convalescence was uneventful.

Case II.—Age 30, a nullipara, was admitted to the Johns Hopkins Hospital two days after the previous one; Gyn. No. 11,411.

Complained of an abdominal tumor which had been diagnosed as a myomatous uterus by one of the foremost gynecologists of this country. The patient missed her menstrual period seven months ago, thought she was pregnant and three months later an apparent abortion took place. On examination a condition very similar to the previous case was found and at operation the right tube and ovary, with blood clots and a three months fœtus were removed. Convalescence was uneventful.

IV. *Tumors other than Myomata Simulating both Pregnancy and Uterine Myomata.*

The differential diagnosis between these three possible conditions may be very difficult, as shown by the cases reported under extra-uterine pregnancy and also the following case, which I saw in consultation with Dr. J. P. Boyd.

Patient aged 46, a III Para (21-11 years), complained of uterine bleeding of seven or eight months' duration. She had had a miscarriage two years ago, previous to which the bleeding had been very severe for over a month. On account of the more or less constant flow, she was unable to date her last menstrual period.

Patient was anemic, 50 per cent. hæmoglobin. On bimanual examination the vagina was pale, cervix firm and protruding from the external os could be felt several cervical polypi. A median tumor was felt, apparently rising from the uterus, and simulating, as far as palpation

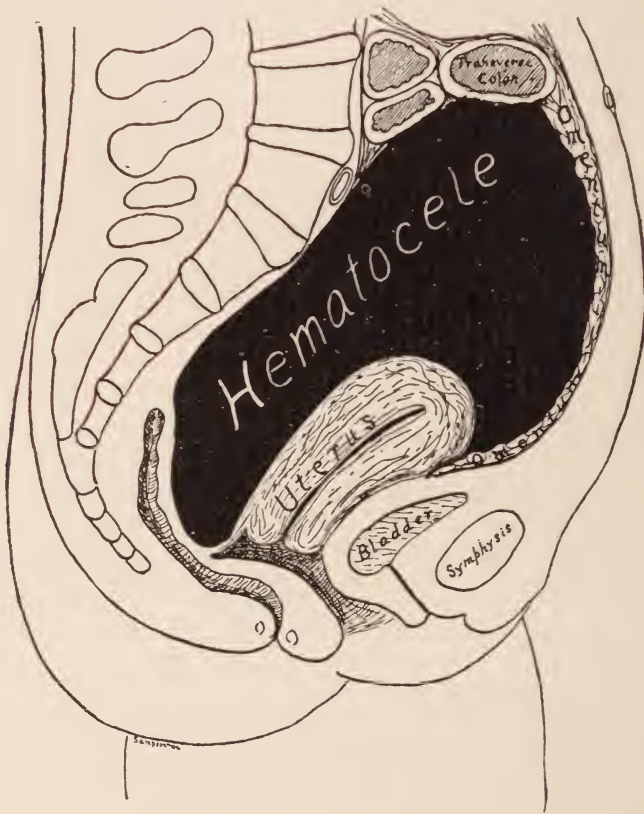


FIG. 1.—Uterine Pregnancy Simulated by a Pelvic Hæmatocele, X 1-3.

The patient, age 34, was four months pregnant, when she had abdominal pain and uterine bleeding. A diagnosis of threatened abortion was made (really the abortion or rupture of a tubal pregnancy). The pains and bleeding ceased in a few days and she was assured by her physicians that she was still pregnant. She waited in vain, ten months, for the expected labor. At operation, it was found that the pregnant uterus was simulated by a pelvic hæmatocele.

was concerned, a five or six months pregnancy. It was thought that increased vascularity of pregnancy might account for the bleeding from the cervical polypi. As none of the other signs of pregnancy were found, this was excluded and a probable diagnosis was made of either a malignant intra-uterine growth or, what was still more likely, a large, soft submucous myoma.

At the operation on May 10, 1905, at the Albany Hospital, a dermoid cyst of the right ovary was found which was situated in the median line and had moulded itself about the fundus of the uterus, thus apparently forming an uterine tumor. (See Fig. II.) The tumor was

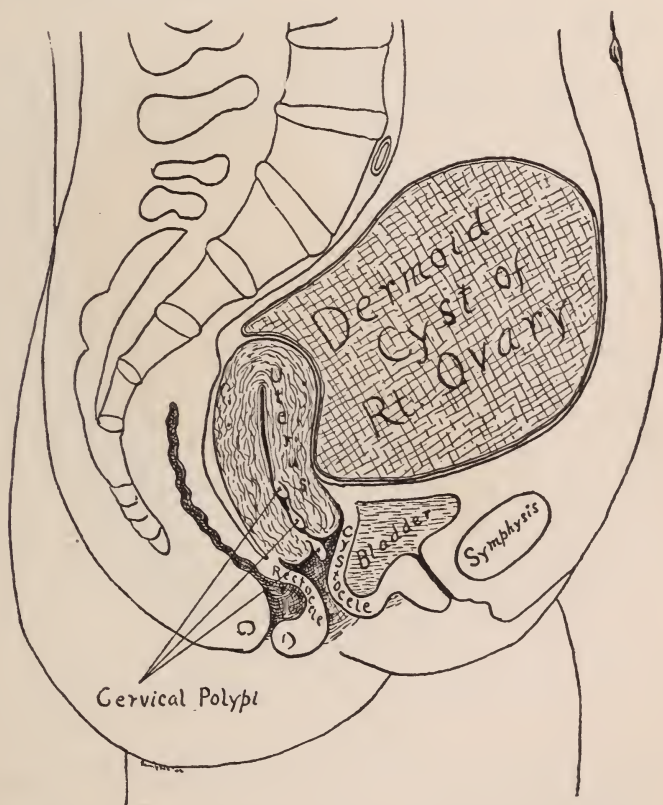


FIG. II.—Pregnancy Simulated by a Dermoid Cyst, X 1-3.

Patient aged 46, complained of uterine bleeding arising from cervical polypi. On examination a condition simulating a five to six months pregnant uterus was found. At operation this simulation was found to be due to a dermoid cyst of the right ovary, the walls of which were flaccid, thus moulding themselves to the fundus of the uterus so that it apparently formed a part of that organ, and felt like the soft fundus of a pregnant uterus.

removed, together with the rest of the pelvic organs (the uterus contained polypi and the opposite ovary was cystic). Convalescence was uneventful.

V. Adipose Tissue in the Abdominal Walls and Omentum, Simulating Pregnancy. This is apt to occur in elderly women who greatly desire children. An increase in weight, especially if associated with the cessation of the menstrual flow due either to a natural or premature menopause, may make such a person believe that she is pregnant. Such a person, recently seen by

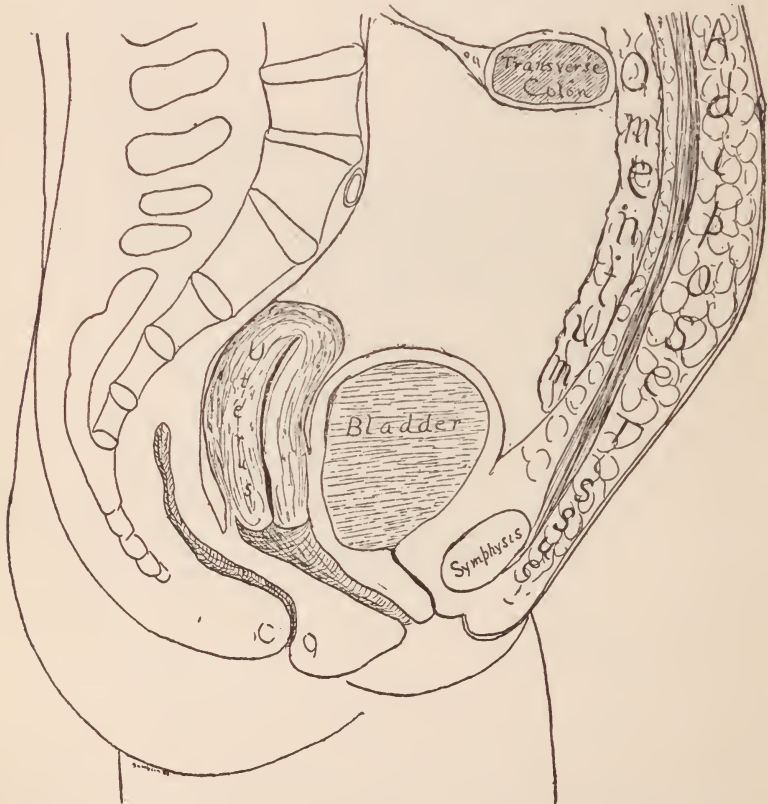


FIG. III.—Pregnancy Simulated by Adipose Tissue in the Abdominal Wall and Omentum, X 1-3.

The patient believed herself six months pregnant. She had measured herself each month and noted the increase in size, she had "felt life" and her breasts had become enlarged. Her belief was so firm that I was unable to persuade her that she was not pregnant.

me, thought she was six months pregnant. She had measured her abdomen each month and had noted, with pleasure, the increase in her waist measure. She assured me that her breasts had become swollen and painful and that she had "felt life." Her belief in her condition was so firm that I was unable to persuade her that she was not pregnant. The entire enlargement was due to the deposit of fat in the abdominal walls and omentum. The uterus was normal in size and in retro-position. (See Fig. III.)

VI. *Uterine Myomata Simulating Pregnancy.* Under this heading we may consider two groups of cases:

1. The rarer and therefore the less important group comprises those cases where a multinodular myomatous uterus simulates the various parts of the child. If ascites is present, the ballotement may be as perfect as in the pregnant uterus. (See Fig. IV.) This condition, with report of cases, have been very carefully considered by Kelly in an article appearing in the *American Gynecology* of November, 1902, entitled "The Mimicry of Pregnancy by Fibroid and Ovarian Tumors."

2. The second group of cases where the uterine enlargement is mainly due to a solitary myoma, and usually of the submucous variety, is the most important group of all, because it is the largest and also because in these cases the differential diagnosis may be the most difficult. Mistakes in this group may lead to the error of not removing a myomatous uterus on account of its resemblance to a pregnancy, or to the more serious one of removing a pregnant uterus, thinking that the enlargement is due to a myoma.

The following two cases illustrate how a submucous myoma may simulate a pregnant uterus and for that reason are worth considering in detail:

Case I.—Age 46, a nullipara and unmarried, complained of profuse bleeding, and severe bearing down pains at the menstrual period.

Past history was unimportant except for her menstrual history. Menses began at the age of thirteen, always regular and normal; and previous to present illness accompanied with only a slight amount of pain. She still menstruates regularly.

Present illness is of about two years' duration. During this time her menstrual periods have been becoming more profuse and also the pain has been increasing in severity. The flow now lasts one week or over instead of a few days, as previously, and is very profuse, the bleeding being so severe as to greatly weaken her so that she is unable to regain

her strength in the intervals. The pain is also very severe, bearing down in character as though the uterus was trying to expel something and could not.

On examination, the uterus was found to be enlarged to the size of about a two months pregnancy, freely movable and during the examination it seemed to vary in consistency as though contracting and relaxing. The vagina was pale, the cervix hard, but the upper portion of the cervix seemed very flexible, *i. e.*, where the cervix joined the enlarged fundus. Breasts were normal. The patient was anemic, hæmoglobin 40 per cent, but otherwise her condition was about the same as it had been for years.

On July 26, 1905, a myomatous uterus was removed at the Albany Hos-

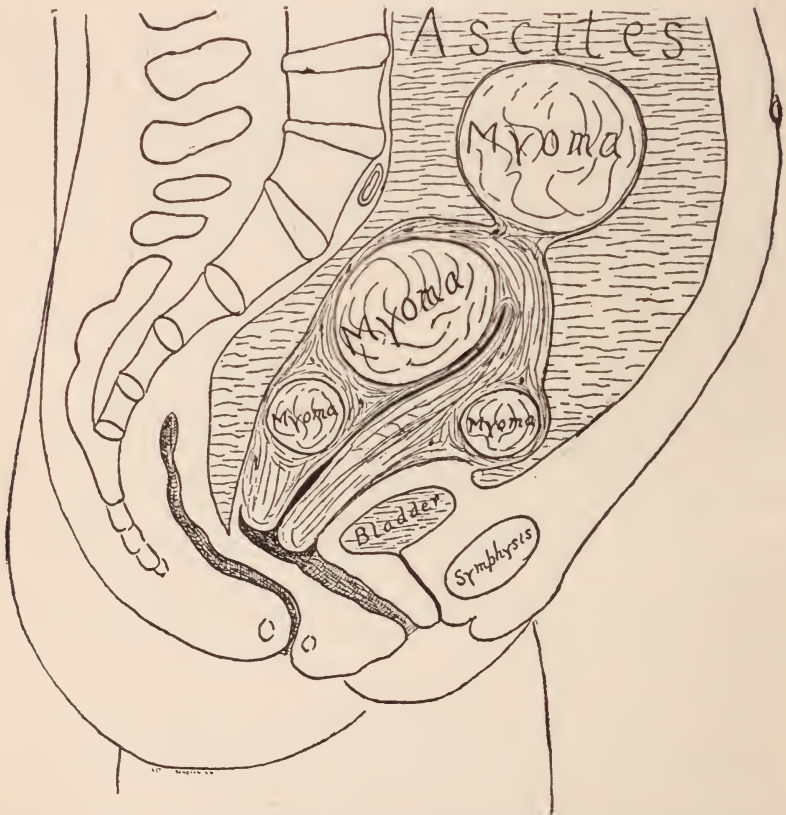


FIG. IV.—Pregnancy Simulated by a Multinodular Myomatous Uterus with Ascites, X 1-3.

Such cases have been reported and the illustration shows how the nodules might be taken for the foetal parts, the large one the head and the small one a knee or elbow. The ascites permits ballotement, as perfect as in the pregnant uterus.

pital. Convalescence was uneventful. Specimen removed shows a myomatous uterus, in which the main enlargement is due to a submucous myoma about 5 cm. in diameter arising in the posterior uterine wall and protruding into the uterine cavity. (*See Fig. V*).

Remarks. This case is described not because there was any difficulty in the diagnosis previous to the operation, but because it shows how changes in the uterus, similar to these caused by pregnancy may occur. In this instance a tumor

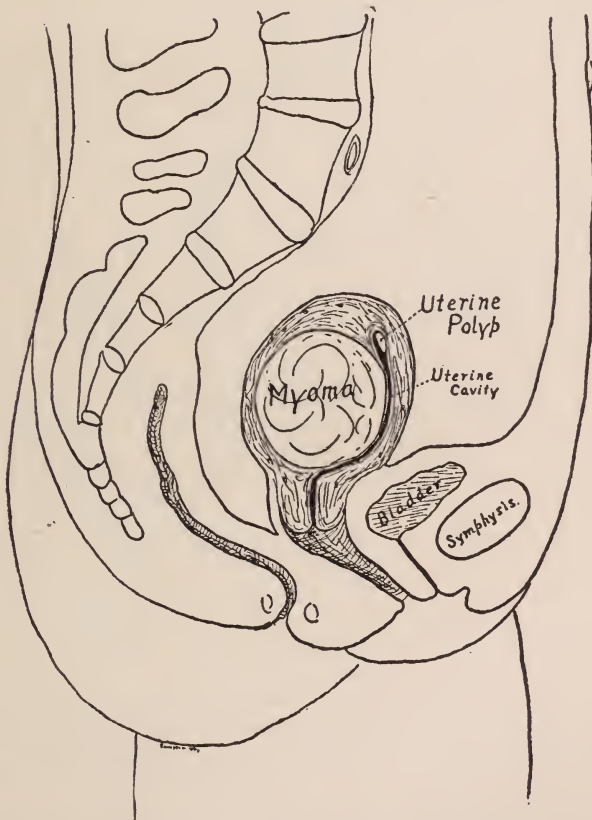


FIG. V.—Early Pregnancy Simulated by a Small Submucous Myoma, X 1-3.

Patient, age 46, complained of severe bearing down pains with hæmorrhages at the time of the menstrual periods. The myoma altered the form of the uterus so that it simulated an early pregnancy and as an intra-uterine tumor stimulated that organ to contractions, hence the symptoms resembling an attempted abortion at the time of menstruation.

developing in the posterior uterine wall and protruding into the uterine cavity gave rise to some of the signs of a symmetrical tumor within the uterine cavity such as a pregnancy. There was present in this instance the uniform enlargement of the uterus, and the variations in consistency caused by the uterus attempting to expel the foreign body and, in addition, at the time of the menstrual period these contractions became more violent, amounting to labor pains, and there were present the clinical symptoms of threatened abortion, *i. e.*, the bleeding and the violent attempts of the uterus to give birth to the tumor.

Case II.—Patient age 40, II Para (11 and 9 years), and two miscarriages induced at the third month, seven and five years ago, complained of the same symptoms as the previous case, except that the bleeding was much more severe, and in addition the patient noticed an abdominal tumor extending up to the umbilicus and so closely simulating a pregnancy that her friends thought she was in that condition.

For the last three years, the patient's menstrual flow has been getting more profuse and painful; previously it lasted two or three days and was painless and not profuse. It now lasts from one to two weeks and the bleeding is as severe as would occur at labor and in addition the pains are in every way similar to labor pains. The tumor has been noticed for at least six months and its growth has been slow. There has been none of the subjective symptoms of pregnancy except the presence of the tumor and the frequency of micturition caused by the tumor pressing on the bladder. Aside from the great weakness caused by the severe hemorrhages at the menstrual period, the patient feels very well.

The patient was referred to me by Dr. A. E. Beale of Schaghticoke, N. Y., and was first seen on August 21, 1905. She seemed very anaemic and somewhat emaciated. Her breasts contained milk at the time, but otherwise did not resemble those of pregnancy. The abdominal distension caused by a median tumor extending up to about 2 cm. above the umbilicus could be seen and the tumor easily palpable. It simulated in many ways a pregnant uterus of six months' duration. The tumor was uterine, symmetrical, slightly movable and soft. On palpation one could distinctly feel it change in consistency, becoming harder and at the same time smaller and then relaxing and becoming larger and softer, *i. e.*, the so-called contractions of Braxton-Hicks, which in this instance were also painless.

It was impossible to map out the child or obtain any evidence of ballotement. On auscultation the so-called uterine souffle was distinctly heard at the uterine cornua and in the region of the cervix on each side; on the other hand nothing was heard suggesting foetal heart sounds. On vaginal examination, the vaginal mucosa was pale, the cervix of moderate consistency, and the external os readily admitted the tip of one's finger. The tumor was apparently uterine in origin and the portion of the cervix above the vagina felt flexible, suggesting the so-called Hegar's sign.

A diagnosis of a submucous myoma was made but on account of its similarity to pregnancy and especially as the patient made some contradictory statements as to the duration of the tumor, etc., and had had two miscarriages, seven and five years ago, which had been induced, it was

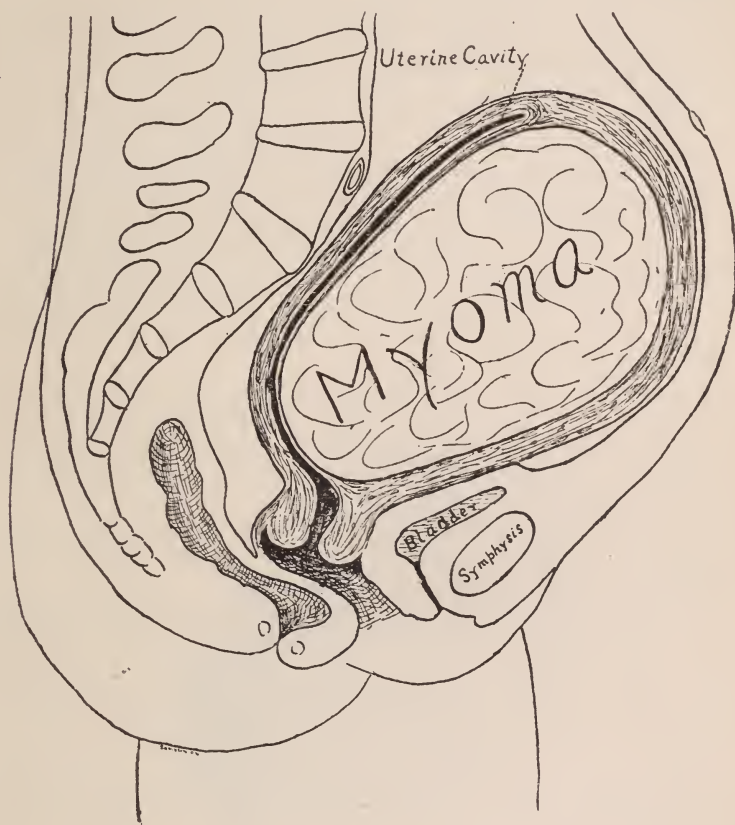


FIG. VI.—Pregnancy Simulated by a Large Submucous Myoma, X 1-3.

Patient, age 40, complained of abdominal tumor and severe bearing down pains with hæmorrhages at the menstrual periods. Pregnancy was simulated by: the milk in the breasts; the symmetrical enlarged uterus of the form and consistency of pregnancy; intermittent uterine contractions, the so-called contractions of Braxton-Hicks, which could be felt at any time; the uterine souffle; a flail cervix simulating Hegar's sign; a patent cervix and a smooth, soft body within the uterine cavity feeling somewhat like the distended membranes of pregnancy; the threatened abortion, i. e., the labor pains and bleeding occurring at the menstrual periods; the frequency of micturition caused by the pressure of the enlarged uterus on the bladder.

thought best to wait until after the next period with the understanding that the patient's physician should visit her at that time and ascertain the nature and severity of the flow.

A little over a month later the patient returned. She had menstruated two weeks previously and had nearly bled to death. The bleeding was much more severe than any of the previous ones, and although the vagina at this time had been packed tightly with gauze by her physician, it did not seem to have any influence on the amount of blood lost. During the menstrual flow the uterine cavity would seem to become filled with blood, the fundus rising five to six cm. above the umbilicus, and it would then contract with severe labor pains and the blood would be forced out of the cervix like water out of a faucet. On examination the findings were similar to those of the previous examination, except that the top of the uterus was found to be about 2 cm. below the umbilicus instead of that distance above it, as found at the previous examination.

The patient was admitted to the Albany Hospital September 28, 1905, and after resting in bed, with forced feeding, iron and tonics, the uterus with myoma was removed, October 5th, by a supravaginal hysterectomy, with hæmoglobin at 45 per cent.

On examination under ether, just before the operation, the upper portion of the cervix felt very soft, closely simulating Hegar's sign, and in addition the submucous myoma could be palpated through the patent cervix and its soft consistency felt not unlike the distended membranes of a normal pregnancy.

On opening the abdominal cavity the uterus felt even more like a pregnant uterus than on palpation through the abdominal walls. The convalescence was uneventful.

The symmetrical enlargement of the uterus which so closely simulated a pregnancy was found to be due to a submucous myoma oval in shape with a long diameter of 17 cm., which had developed in the anterior uterine wall. (*See Figs. VI and VII*). The tumor was found to be œdematous and in places to have undergone myxomatous changes which accounted for its soft consistency. The bleeding, which occurred only at the time of the menstrual flow, came entirely from the endometrium. This is probably due to several factors; first, the enormously increased area to bleed from the uterine cavity being 22 cm. deep instead of 6 or 7 cm. deep, as in a multipara of that age; secondly, the congestion of the endometrium caused by the tumor pressing on the veins of the uterine wall and thus interfering with the return flow from the endometrium, and, thirdly, from actual changes in the blood vessels of the endometrium permitting a greater escape of blood at this time or an actual bursting of some of its blood vessels causing a free hemorrhage.

Pregnancy was simulated in this case by:

- (I)—the milk in the breasts;
- (II)—the symmetrically enlarged uterus of the form and consistency of pregnancy;
- (III)—intermittent uterine contractions, the so-called contractions of Braxton-Hicks;

(IV)—the uterine souffle, heard both over the upper and also the lower portion of the uterus;

(V)—a flail uterine cervix simulating Hegar's sign;

(VI)—a patent cervix which admitted the finger and a smooth rounded body within the uterine cavity, which felt somewhat like the distended membranes of a pregnant uterus, but in this instance was the smooth endo-metrium covering a soft submucous myoma;

(VII)—the threatened abortion, i. e., the labor pains and bleeding occurring at the menstrual periods;

(VIII)—the frequency of micturition caused by the pressure of an enlarged uterus against the bladder.

Pregnancy was excluded by:

(I)—the clinical history of the case, i. e., the long duration of the tumor, the regular menstruation with severe hæmorrhages and the absence of the subjective symptoms of pregnancy;

(II)—the inability to map out the child, obtain ballottement, hear the fetal heart sounds or feel life;

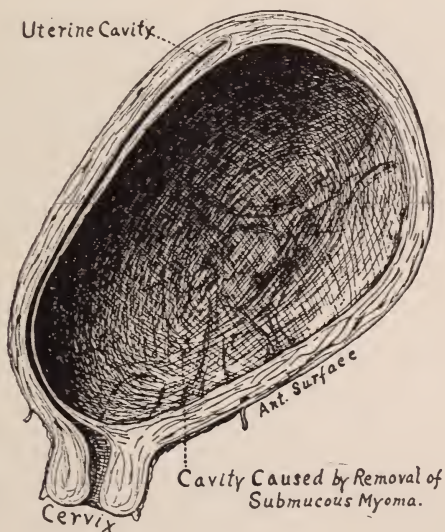


FIG. VII.—Changes in the Uterus Caused by a Large Submucous Myoma Similar to those Caused by Pregnancy, X 1-3.

The myoma has been removed from the uterus shown in Fig. VI. It has left a cavity similar to the enlarged uterine cavity of pregnancy, except that it is not lined by mucous membrane and does not communicate with the cervical canal. As in pregnancy the uterus has been uniformly enlarged by the distension caused by the growth of an intra-uterine tumor.

(III)—the rather hard cervix, pale vagina and breasts which did not show any of the signs of pregnancy except the milk.

A probable diagnosis of submucous myoma was made from:

(I)—the clinical history of the case;

(II)—the eight ways given above in which the case simulated pregnancy, but which were more characteristic of this form of myoma, especially as each symptom or manifestation lacked the typical manifestation of a pregnancy;

(III)—the absence of the positive signs of pregnancy.

CONCLUSIONS.

No attempt has been made to review all the conditions which may simulate either uterine myomata or uterine pregnancy, but only to call attention to some of the more common conditions causing difficulties in the differential diagnosis, and also to emphasize the important part played by uterine myomata in the simulation of pregnancy, and therefore the importance of carefully studying these cases. We must bear in mind (and here I am not presenting anything new) that uterine myomata, through the alterations in the form of the uterus caused by the tumor, the increased vascularity in that organ and surrounding parts necessary to nourish the uterus and tumor, and the stimulus due to a submucous myoma, thus giving rise to uterine contractions, may cause symptoms which may simulate any or all of those caused by pregnancy except the actual heart beat of the living child.

However, these simulations nearly always lack the stamp of genuineness, and, if they alone are carefully studied, should teach us that they are, in the particular case under study, much more characteristic of a myomatous uterus than a pregnancy, the above, together with a history of the case, should make the diagnosis clear in nearly every instance. When mistakes are made it is nearly always our fault, the signs were all there only we would not see or heed them or would insist in incorrectly interpreting them.

THE METHODS AND INDICATIONS FOR THE USE OF SPINAL ANAESTHESIA.

By ARTHUR W. ELTING, M. D.,

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The earliest recorded attempt to secure anaesthesia by the action of anaesthetic drugs upon the spinal cord was that of Corning, who in 1885 injected a solution of cocaine between the spinous processes of the lower dorsal vertebrae, where the extensive venous plexuses favored a rapid absorption of the drug. These experiments were at first performed upon dogs and later upon human beings, with the production of anaesthesia of the lower half of the body. Although published by Corning, this work attracted practically no attention and was not accepted as a feasible surgical procedure until 1899, when Bier, entirely ignorant of the work of Corning, using the method of spinal puncture proposed by Quincke, introduced a solution of cocaine into the subarachnoid space. Bier found that in this way a very satisfactory anaesthesia could be produced in the legs and lower part of the trunk and that under such an anaesthesia operations could be safely and painlessly performed. To Bier, therefore, belongs the credit for the introduction and perfection of the method of spinal anaesthesia, although his work was antedated by that of Corning, which, however, was not productive of any practical results.

Still a third name should be mentioned in connection with the early history of this method of anaesthesia, and that is that of Tuffier, the brilliant French surgeon. He was one of the first to employ the method advocated by Bier and at once became one of its most enthusiastic advocates, a position which he has maintained ever since, as evidenced by his exhaustive monograph upon the subject. In France, Italy and Austria the method is usually spoken of as that of Tuffier, and it was Tuffier who was perhaps the most influential in calling the attention of American surgeons to the advantages of spinal anaesthesia. The method soon found enthusiastic advocates, as well as strong opponents.

Three different types of sentiment with regard to the method may be said to have been assumed by surgeons throughout the

world. The first type is that of the enthusiastic advocate, of whom there have been comparatively few, with Tuffier as the most prominent, for he alone has used it in over one thousand cases. The second type is that of the great majority of surgeons, who condemn its use, most of whom have either never made use of the method or else have condemned it after a relatively brief and imperfect trial. The third type is represented by a considerable number of the ablest surgeons, among whom Bier himself may be numbered, who believe that in many instances it is a most desirable and valuable method of anaesthesia, and who furthermore believe that it will become more and more universally practiced as the method of its employment is perfected. As very often happens after the promulgation of any new and brilliant idea in surgery, many surgeons immediately adopted and began to promiscuously practice the method, which was but imperfectly developed or understood, with the result that distressing accidents and in a few instances death followed its use. This led these same surgeons to immediately discard the method without attempting to perfect it or discover why the results were not all that was desired. These same individuals now became the enemies of spinal anaesthesia and have continued to denounce its use, when perhaps the failure depended far more upon themselves than upon the method. Within a year after the publication of his original article Bier published a second article, in which he deplored the indiscriminate use which had been made of the method, then in its infancy, and urged that it be practiced only with caution and with a view to the elimination of the unfavorable features.

From tremendous enthusiasm the pendulum swung back to a position of general apathy, until within the past year and a half, when, with better methods and more conservatism, the method has again come into vogue and is being more generally used. During all this time Bier and his followers have been at work to eliminate so far as possible the dangerous or unsatisfactory features, and in this they have in great measure succeeded, although still further improvement in the technique is to be expected. Although the method was introduced by a German, it found its most enthusiastic advocates in France and America, and only within the past two years has it begun to be generally practiced by German surgeons. That it is constantly winning favor is demonstrated by the attitude assumed by many of the

leading continental surgeons at the last German congress of surgery, when favorable reports from many of the leading surgical clinics were presented and over twelve hundred cases reported in which this method had been employed. Zahradnicky, in 1902, collected from the literature forty-six hundred and seventy-nine cases of spinal anaesthesia, in two hundred and twelve of which there was a failure to induce a satisfactory anaesthesia, while in fifty-eight cases there were severe toxic symptoms. Death occurred in twelve cases, in eleven of which cocaine was used, and in one eucaine.

Because of the toxic action of cocaine, attempts have been made to replace it by other of the so-called local anaesthetics, such as tropococaine, eucaine, A. and B., peronin, anaesthesin, and latterly stovaine. Of all the substitutes proposed, stovaine appears to be the most satisfactory and the results of its use would seem to indicate that it will largely replace cocaine in spinal anaesthesia.

Stovaine is a synthetic compound first discovered by Forneau, a French chemist, and demonstrated by animal experiments, as well as its use in the human individual, to be but slightly toxic and to possess anaesthetic properties almost equal to those of cocaine.

As a result of careful study and investigation the methods of spinal anaesthesia have recently been greatly improved, and chiefly in two ways: First, by the use of the adrenal preparations; and secondly, by the use of stovaine.

Soon after the discovery of adrenalin its value as an adjuvant to cocaine for local anaesthesia was demonstrated, and Bier conceived the idea that by its use in spinal anaesthesia the rapidity of absorption of the cocaine could be retarded and the local effect increased, while the toxic symptoms were decreased, an idea which was amply confirmed by its use. At first Bier injected the adrenalin solution into the subarachnoid space and, after allowing five or six minutes to elapse, injected the solution of cocaine. Later, however, he combined the two drugs and injected them at the same time, and this is the method which he now employs in the use of stovaine. As Dönitz has clearly stated, there are three ends to be attained in perfecting the method of spinal anaesthesia: 1, to reduce the failures to a minimum or to avoid them entirely; 2, to secure the desired result with the smallest possible dose of the anaesthetic, thereby avoiding the

danger of symptoms or after effects; and, 3, to secure an anaesthesia extending well up on the body and thereby increase the range of usefulness of the method.

The cases in which the anaesthesia has not been satisfactory may be divided into two groups: One, unilateral anaesthesia; and, two, incomplete anaesthesia. The occurrence of unilateral anaesthesia is probably due in most instances to the fact that the needle strikes one side of the cauda instead of the middle, and this side becomes anaesthetic, while the other does not. In other cases it has been assumed to be the result of gravity in that, the puncture being made with the patient upon the side, that side of the body becomes anaesthetic which is undermost. This explanation in all probability holds in only very few cases.

It has been definitely shown that when the spinal fluid flows freely the anaesthesia is much more apt to be complete than when it flows slowly. If the cases of failure to secure satisfactory anaesthesia are carefully analyzed, it will be found that in most instances little or no spinal fluid has escaped through the needle. In such cases it is well to move the needle around, withdraw it somewhat, or even make a new puncture, for the failure to secure a satisfactory flow of spinal fluid is more apt to be due to an imperfect insertion of the needle than an abnormally low pressure of the spinal fluid. For this a satisfactory anatomical explanation has been offered by Dönitz. The two halves of the cauda equina do not lie in immediate contact with each other, but between them exists an elongated space filled with spinal fluid. If the needle penetrates this space the flow of fluid will be free. If, however, the needle should penetrate the nerves on either side the flow might be more or less obstructed, and in the same way the injected anaesthetic will not have free access to all the nerves and hence a unilateral or incomplete anaesthesia might result. An attempt should, therefore, be made to have the needle enter the subarachnoid space as near the middle line as possible and care should be taken to see that the spinal fluid flows freely. Another important anatomical fact to be borne in mind is that the sensory fibers of the cauda are grouped together in its posterior part, while the motor fibers occupy the anterior part. Inasmuch, therefore, as we wish the effect of the anaesthetic to be exerted upon the sensory fibers, care should be taken that the needle does not penetrate the cauda. In this way, too, an haematoma of the cauda can be avoided. It has

also been shown that if a colored solution is injected into the anterior or posterior part of the cauda, it tends to extend upward and downward in this part without involving the other, and thus certain failures to obtain complete anaesthesia can be explained by the fact that the anaesthetic reached only the motor and not the sensory fibers. This is especially true of stovaine, which appears to act more intensely upon the motor nerves than does cocaine.

In other instances failure may have been due to the use of anaesthetics which had to a greater or lesser extent lost their properties, either as a result of their being too old, or because they were subjected to too great and too long continued heat for the purpose of sterilization. In probably only very few cases has an idiosyncrasy of the individual been responsible for the failure to secure satisfactory anaesthesia. This is clearly demonstrated by the fact that coincident with a better understanding of the anatomical and physiological features of the subarachnoid space, as well as a perfection of the method of spinal anaesthesia, the percentage of failure to obtain a satisfactory anaesthesia has fallen from eight or ten per cent. to two or four per cent., and in Bier's own clinic almost to nil. When the most perfect methods are employed, failures will be relatively infrequent.

The toxic symptoms incident to the use of spinal anaesthesia have been the most deterrent factor in its development and more general adoption. These symptoms may vary from very slight transitory, hardly noticeable disturbances of respiration and circulation, to a most profound collapse from which the patient may not rally. The alarming symptoms are those of collapse; a small, oftentimes almost imperceptible pulse, which may be much slowed in some cases, while in others the rate is increased. The face is pale; the lips are cyanotic; the respiration is more or less labored; the sensorium is disturbed. Nausea and vomiting, with a profuse cold clammy perspiration, and paresis of the sphincters as well as of the legs may also occur. These are the immediate toxic symptoms, to which in a short time, one to three hours, may be added an intense headache, restlessness and elevation of the temperature. When such symptoms are present the patient is apt to be more or less uncomfortable for from a few hours to several days, the headache and restlessness being the symptoms which show the most marked tendency to persist. The treatment of this toxæmia is essentially symptomatic and the usual measures for

combating shock should be employed. Those symptoms, i. e., headache, restlessness, spinal irritation, referable to the central nervous system, which occasionally persist for several days after the anaesthesia, suggest an aseptic meningitis, and can be avoided in practically every instance if care is taken to select a non-irritant anaesthetic, which should be administered in the smallest possible dose in a non-irritating solution. Cocaine sometimes causes after effects which are evidently due to an irritant action of the drug. Eucaïne acts in practically the same manner, while tropacocaine does this to a lesser extent. Stovaine, on the other hand, in doses three or four times that of cocaine, is much less of an irritant than any of the drugs mentioned. Attempts have also been made to introduce the drug in solution as nearly isotonic with the spinal fluid as possible in order that irritation from this source may be avoided. To this end some surgeons introduce the necessary amount of sterile cocaine crystals into the barrel of the syringe, after which the spinal puncture is made and enough spinal fluid drawn into the syringe to dissolve the cocaine, after which the solution is reinjected. Normal salt solution would appear to be the most universally available and satisfactory menstruum for the solution of the anaesthetic drug. It is also evident from the literature that symptoms of spinal irritation may occur from simple spinal puncture without the injection of any solution whatever. The symptoms referable to this irritant action of the anaesthetic practically always disappear in a short time and no permanent disturbance results. In a very few instances the post-operative symptoms have indicated a septic meningitis, which in two or three instances has been confirmed by autopsy. There is, however, no need of such a complication if care is exercised and an aseptic technique is employed.

The practical range of usefulness of spinal anaesthesia may be said to be from the level of the umbilicus downward. The most constant and satisfactory results have been when the method was employed below the level of the anterior-superior iliac spines. Above this level the anaesthesia is more or less uncertain. Theoretically it would seem most desirable to inject the anaesthetic at the level of the segments which supply sensation to the region to be operated upon, but this is impossible because of the danger of wounding the cord. The nearest approximation to this ideal is obtained by injecting the anaesthetic between the first and second, or second and third lumbar vertebrae, followed by ele-

vating the pelvis. In this way the diffusion of the anaesthetic upward in the subarachnoid space is favored and a higher level of anaesthesia may be obtained. Dönitz employs in conjunction with this still another device to heighten the level of anaesthesia. By placing an elastic band around the neck an obstruction to the return flow of blood from the cranial cavity is produced which results in raising the pressure of the cerebro-spinal fluid. If after this elastic bandage is placed, the puncture is done, the anaesthetic injected, and the elastic bandage then removed, the anaesthetic solution will be drawn upward in the subarachnoid space and a higher level of anaesthesia induced. This procedure, combined with elevation of the pelvis, will usually give a satisfactory anaesthesia as high as the level of the umbilicus.

The general consensus of opinion is that spinal anaesthesia is indicated in all classes of cases except the very young, i. e., under ten to fifteen years of age. Circulatory or pulmonary disease is not a contraindication, but on the other hand this mode of anaesthesia would appear to be especially indicated in this class of cases. It appears to be an especially valuable mode of anaesthesia in cases in which there is already a profound shock, as after crushing injuries to the legs, cases in which the use of a general anaesthetic is not infrequently attended with serious consequences. In the writer's own personal experience it has been of the greatest service perhaps in this class of cases, and in none of them was the amputation of the leg attended with any further increase of the shock. The researches of Crile and others have demonstrated of how great importance the shock attendant upon the cutting of large nerve trunks is, and to prevent this shock a preliminary exposure of the large nerve trunks above the proposed site of severance, followed by the injection of a solution of cocaine directly into the nerve, is not infrequently practiced. In this way the afferent impulses are effectually blocked and the resulting shock is materially diminished. Spinal anaesthesia allows the blocking of all the nerves that might be encountered in such an operation, in a far more effectual fashion than that proposed by Crile, and it is fair to assume that the absence of shock after such an operation is in part due to the blocking of the nerves.

The method of induction of spinal anaesthesia as practiced by the writer is in detail as follows:

The patient either sits with the shoulders bent forward and the spine arched backward, or lies upon the side in such a fashion as to produce the greatest amount of arching of the dorso-lumbar spine. This is best obtained with the head and shoulders bent forward and the thighs flexed upon the abdomen. The skin over the dorso-lumbar region of the spine is carefully disinfected. The posterior iliac crests are determined and the fourth lumbar spine slightly above this level is readily located. Depending upon whether a high level of anaesthesia is desired or not, the spines of the first, second, third or fourth lumbar vertebrae are located and the point of the needle inserted either just below the spine or slightly to one side. The needle is carefully pushed forward between the vertebrae until the region of the dura is reached, when the needle is so directed as to enter the sub-dural space as nearly in the median line as possible. Occasionally some difficulty is experienced in directing the needle between the vertebrae and it may have to be withdrawn slightly, or even entirely, and deflected in one direction or another. The entrance of the needle into the subarachnoid space is usually readily felt, and the withdrawal of the stilet followed by the escape of the spinal fluid demonstrates that the subarachnoid space has been entered. If the fluid flows slowly or not at all, the needle should be moved around or even partly withdrawn, and these movements should be continued until the fluid flows freely, for, as above mentioned, failure to obtain satisfactory anaesthesia has usually occurred in the cases where the fluid flowed but slowly. Often a slight change in the position of the needle will remedy this condition. An amount of spinal fluid is allowed to escape about equal to that of the anaesthetic solution to be injected. From ten to twenty milligrams of cocaine or forty to sixty milligrams of stovaine dissolved in one and one-half to two cubic centimeters of sterile salt solution, to which one-half cubic centimeter of a one to one thousand solution of adrenalin has been added, are then slowly injected and the needle withdrawn.

The sterilization of the injected solution is of considerable importance, and it is the writer's custom to prepare the solution containing the anaesthetic and the adrenalin in a small test tube, which is then held in boiling water for two or three minutes. This has been found to be an effectual method of sterilization, and at the same time it does not impair the activity of the drugs employed.

Formerly it was the writer's custom to inject the adrenalin first, and five or six minutes later the cocaine or stovaine were injected. The injection of both drugs at once, however, saves time and has proven to be quite as satisfactory as the method of separate injection.

The adrenalin has a threefold action; it prevents the rapid absorption of the cocaine or stovaine and thus lessens the tendency to toxic symptoms: it intensifies the local action of the anaesthetic, and it prolongs the period of anaesthesia. In from five to ten minutes after the injection of the cocaine or stovaine, anaesthesia of the legs and lower part of the trunk is complete. As already remarked, the zone of anaesthesia can be materially heightened by elevation of the pelvis after the injection of the anaesthetic.

The following is a list of the cases in which spinal anaesthesia has been practiced by the writer:

Case No. 1; age, 58 years: Amputation at upper and middle thirds of thigh for ununited fracture and ulceration of leg. Perfect anaesthesia. No toxic symptoms.

Case No. 2; age, 82 years: Perineal section for urinary retention. Perfect anaesthesia. Slight post-operative nausea and vomiting.

Case No. 3; age, 35 years: Radical cure of right inguinal hernia. Perfect anaesthesia. No toxic symptoms.

Case No. 4; age, 70 years: Wiring of fractured patella. Perfect anaesthesia. Hysterical patient. No toxic symptoms.

Case No. 5; age, 55 years: Amputation at middle and lower thirds of leg for crush. Perfect anaesthesia. Slight nausea and vomiting.

Case No. 6; age, 55 years: Resection of distal ends of first metatarsal bones of both feet for hallux valgus. Perfect anaesthesia. No toxic symptoms.

Case No. 7; age, 70 years: Prostatectomy for hypertrophied prostate and urinary retention. Perfect anaesthesia. Nausea and vomiting.

Case No. 8; age, 71 years: Amputation of leg in upper third for gangrene of foot. Perfect anaesthesia. No toxic symptoms.

Case No. 9; age, 51 years: Amputation at middle of thigh for gangrene of leg. Perfect anaesthesia. Slight nausea and vomiting.

Case No. 10; age, 74 years: Amputation of great toe and re-

section of first metatarsal bone for necrosis. Perfect anaesthesia. No toxic symptoms.

Case No. 11; age, 74 years: Amputation at middle of leg for gangrene of foot. Perfect anaesthesia. No toxic symptoms.

Case No. 12; age, 74 years: Amputation at middle of femur for gangrene of leg. Perfect anaesthesia. No toxic symptoms.

Case No. 13; age, 23 years: Curettement of tuberculous sinuses about knee joint. Perfect anaesthesia. Nausea, vomiting, profuse sweat; headache for three days.

Case No. 14; age, 50 years: Resection of distal end of first metatarsal bone of each foot for hallux valgus. Perfect anaesthesia. No toxic symptoms.

Case No. 15; age, 58 years: Amputation at middle of thigh for diabetic gangrene of foot. Perfect anaesthesia. No toxic symptoms.

Case No. 16; age, 46 years: Excision of inguinal glands for recurrent sarcoma. Perfect anaesthesia. Nausea, vomiting, profuse sweat, pallor; small pulse, rate normal; prostration.

Case No. 17; age, 28 years: Excision of sequestrum from femur following osteomyelitis. Perfect anaesthesia. Nausea, vomiting.

Case No. 18; age, 23 years: Amputation at knee joint—Gritti method, for crush of leg. Perfect anaesthesia. No toxic symptoms.

Case No. 19; age, 27 years: Amputation at lower third of thigh for crush of leg. Perfect anaesthesia. No toxic symptoms.

Case No. 20; age, 36 years: Amputation at lower third of leg for crushed foot. Perfect anaesthesia. No toxic symptoms.

Case No. 21; age, 40 years: Wiring of both patellae for fracture. Perfect anaesthesia. No toxic symptoms.

Case No. 22; age, 78 years: Wiring of patella for fracture. Perfect anaesthesia. Slight disturbance of vision. Slow pulse, scarcely felt at wrist. No other symptoms.

Case No. 23; age, 25 years: Skin grafting of heel—Thiersch method, for extensive ulceration following crush. Perfect anaesthesia; slight nausea and vomiting; transitory motor paralysis.

Case No. 24; age, 52 years: Prostatectomy for hypertrophied prostate and retention of urine. Very satisfactory anaesthesia. No toxic symptoms.

Case No. 25; age, 53 years: Whitehead operation and curette-

ment of sinuses for fistula in ano and hemorrhoids. Perfect anaesthesia. No toxic symptoms.

Case No. 26; age, 27 years: Reamputation of tibia and fibula at upper and middle thirds for ulceration of stump. Perfect anaesthesia. No toxic symptoms.

Case No. 27; age, 41 years: Whitehead operation and curettement of sinus for fistula in ano and hemorrhoids. Perfect anaesthesia. No toxic symptoms.

Case No. 28; age, 32 years: Reamputation of tibia and fibula at upper part of middle third for extensive ulceration of stump. In this case for the first time in the writer's experience there was no escape of cerebro-spinal fluid, although several punctures were made. Being satisfied that the point of the needle was in the subdural space, the anaesthetic was injected and satisfactory anaesthesia was induced, although it was not absolutely perfect. No toxic symptoms.

Case No. 29; age, 29 years: Radical cure of right inguinal hernia. Perfect anaesthesia. No toxic symptoms.

Case No. 30; age, 30 years: Wiring of fractured right patella and radical cure of right inguinal hernia. Slight nausea and vomiting. Perfect anaesthesia.

In the first seventeen of the above cases cocaine was the anaesthetic employed, and from ten to twenty milligrams were used. In the last thirteen cases stovaine was the anaesthetic employed, in doses of from forty to eighty milligrams.

In both series of cases the dosage was rather high, and yet no severe toxic symptoms resulted. There were, however, more slight toxic disturbances following the use of cocaine than after the use of stovaine, and since the anaesthesia produced by the latter was perfect in each instance, we are inclined to regard it as decidedly preferable to cocaine, which bears out the opinion expressed by practically all those who have used it. In one case spinal anaesthesia was performed three times upon the same patient within a period of five weeks without the production of any toxic or irritative symptoms, and with the production of perfect anaesthesia in each instance.

It might be further observed that the above-mentioned cases were selectedly bad ones. In many instances the age was advanced and severe cardiac and circulatory disturbances were present. Some of the patients were pronounced alcoholics, while

still others were suffering from severe shock as the result of crushes of the legs or hemorrhage. The immediate result in every instance in which spinal anaesthesia was employed was most satisfactory, and in no instance has there been any post-operative evidence of disturbance of the spinal cord or nerves. We feel therefore that, while the range of usefulness of spinal anaesthesia will always remain somewhat restricted, it is nevertheless a valuable addition to the methods of inducing anaesthesia and one which is deserving of more extended trial.

In nature there's no blemish but the mind.—*Twelfth Night, Act iii, Sc. iv.*

ALBANY HOSPITAL.

FOURTH ANNUAL REPORT OF PAVILION F, DEPARTMENT
FOR MENTAL DISEASES, FOR THE YEAR ENDING
FEBRUARY 28, 1906.

By J. MONTGOMERY MOSHER, M. D.,

Attending Specialist in Mental Diseases.

To the Board of Governors:

I have the honor to present the fourth annual report of the operations of Pavilion F, for the year ending February 28, 1906.

There remained in the Pavilion on March 1, 1905, twenty-three patients, eleven men and twelve women. There have been admitted during the year one hundred and twenty-one men and ninety-three women. The whole number of patients under treatment during the year was, therefore, two hundred and thirty-seven.

There have been discharged two hundred and twenty-three patients, one hundred and twenty-five men and ninety-eight women; and there remained in the Pavilion at the end of the year seven men and seven women.

The following tables show the forms of disease and the results of treatment for the year, and since the opening of the Pavilion:

TABLE I.—SHOWING THE FORMS OF DISEASE AND THE RESULTS OF TREATMENT FOR THE YEAR.

FORM OF DISEASE.	Recov- ered		Im- proved		Unim- proved		Died		Re- main- ing		Total		Total
	M	W	M	W	M	W	M	W	M	W	M	W	
Acute delirium.....	4	2	4	2	4	1					9	8	17
Confusional insanity...	1					2					1	2	3
Melancholia.....	2	4	4	16	6	9	2		1	4	13	35	48
Mania.....		2	3	2	1	4			1		5	8	13
Primary dementia.....		1	3		1						4	1	5
Recurrent insanity....			1	3	2					1	3	4	7
Chronic delusional in- sanity					5	3				1	6	4	10
General paralysis.....					5		1				6		6
Terminal dementia....				4	10	10	2	1	2		14	15	29
Imbecility and idiocy.				1	2	1					2	2	4
Acute alcoholic delirium	19	1	1	1			2		2		24	2	26
Alcoholism.....			22	2	1	1					23	3	26
Drug addiction.....	1	1	1	1			1	2	1		4	4	8
Eclampsia.....			1									1	1
Epilepsy.....			2	1	2	1					4	2	6
Neurasthenia.....			2			1					2	1	3
Hysteria.....		1		2	1						1	3	4
Chorea minor.....	1									1	1	1	2
Hypochondriasis.....			1								1		1
Organic brain disease.			2	1		1	1				3	2	5
Cerebral concussion...			1								1		1
Locomotor ataxia.....				1								1	1
Myelitis.....								1				1	1
Pneumonia.....							1	1			1	1	2
Pernicious anaemia...				1				1				2	2
Uraemia.....							1				1		1
Gastro-enteritis.....							1				1		1
Fracture of skull.....							1				1		1
No diagnosis.....											1	2	3
Totals.....	28	13	47	38	37	37	12	8	7	7	132	105	237

TABLE II.—SHOWING THE FORMS OF DISEASE AND THE RESULTS OF TREATMENT SINCE THE OPENING OF THE PAVILION, FEBRUARY 18, 1902.

FORM OF DISEASE.	Recov- ered		Im- proved		Unim- proved		Died		Re- maining		Total		Total
	M	W	M	W	M	W	M	W	M	W	M	W	
Acute delirium.....	17	16	5	5	1	5	6	4	...	...	29	30	59
Confusional insanity..	5	1	3	6	...	2	3	2	...	...	11	11	22
Melancholia.....	14	14	14	35	18	37	...	3	1	4	47	93	140
Mania.....	2	5	9	12	7	12	1	...	1	...	20	29	49
Primary dementia...	1	2	6	1	7	3	...	...	...	...	14	6	20
Recurrent insanity...	...	...	1	6	2	1	...	...	1	3	8	11	11
Chronic delusional in- sanity.....	...	...	1	2	13	12	...	...	1	14	15	29	29
General paralysis.....	...	...	1	...	17	...	2	...	...	20	...	20	20
Terminal dementia...	...	...	6	12	31	32	9	5	2	48	49	97	97
Imbecility and idiocy.	...	...	8	4	5	3	...	...	...	13	7	20	20
Acute alcoholic delir- ium.....	90	6	11	3	2	...	11	1	2	116	10	126	126
Alcoholism.....	19	5	36	2	2	2	...	...	...	57	9	66	66
Drug addiction.....	2	2	2	3	...	1	1	2	1	6	8	14	14
Ptomaine poisoning...	1	2	...	...	...	...	...	...	...	1	2	3	3
Uraemia.....	...	...	...	...	...	...	2	...	...	2	...	2	2
Eclampsia.....	...	1	1	...	...	...	1	...	...	1	2	3	3
Epilepsy.....	...	6	1	6	1	...	...	...	...	12	2	14	14
Neurasthenia.....	2	...	15	4	1	5	...	...	...	18	9	27	27
Hysteria.....	1	1	...	4	1	...	...	...	...	2	5	7	7
Chorea minor.....	1	...	...	...	1	...	...	...	1	1	2	3	3
Exophthalmic goitre..	...	...	1	...	...	...	...	...	...	...	1	1	1
Nervousness.....	...	1	...	...	...	...	...	...	...	...	1	1	1
Hypochondriasis.....	...	...	4	...	1	...	...	...	...	5	...	5	5
Pseudo-paresis.....	...	2	...	...	...	...	...	...	...	2	...	2	2
Organic brain disease..	...	6	2	2	2	1	3	...	...	9	7	16	16
Cerebral concussion...	...	2	...	...	...	...	...	...	...	2	...	2	2
Locomotor ataxia.....	...	...	2	...	1	...	...	...	...	3	...	3	3
Myelitis.....	...	...	...	...	...	...	1	1	...	1	1	2	2
Hydrophobia.....	...	...	...	...	...	...	1	...	...	1	...	1	1
Tuberculosis.....	...	...	...	2	...	1	...	...	...	3	...	3	3
Jaundice.....	...	...	...	...	...	...	1	1	...	1	1	2	2
Pneumonia.....	...	...	...	...	...	...	1	1	...	1	1	2	2
Pernicious anaemia...	...	...	1	...	...	...	1	...	...	2	...	2	2
Gastro-enteritis.....	...	...	...	...	...	...	1	...	...	1	...	1	1
Fracture of skull.....	...	...	...	...	...	...	1	...	...	1	...	1	1
Malingering.....	...	...	...	...	1	...	...	...	...	1	...	1	1
No diagnosis.....	...	...	...	...	...	...	...	...	...	6	3	9	9
Totals.....	155	56	139	106	119	120	41	25	7	7	467	317	784

ADMISSIONS

The number of admissions was two hundred and fourteen. There were one hundred and seventy-four admissions the first year, one hundred and seventy-one the second, and two hundred and thirty-nine the third. Sixteen patients were transferred from other wards of the hospital. Of these twelve were distinctly nervous cases, and four were medical or surgical cases, complicated by nervous symptoms. Nineteen patients were re-admitted, having been treated in Pavilion F in previous years.

The patients admitted may be arranged in two groups. In one group are cases brought to the Pavilion upon the order of the Superintendent of the Poor of Albany County. These patients have manifested some form of mental disorder, and are placed in Pavilion F for observation as to its probable permanence, or, having been legally adjudged insane, pending arrangements for the transfer to a State hospital. In many instances improvement has occurred, need of legal measures obviated, and the patient has returned to his home and his occupation after a short period of recuperation in Pavilion F. In some cases it has been a matter for regret that the period of observation or preliminary treatment (for treatment is always instituted at once) could not have been longer. Prompt, early treatment of mental diseases is of the greatest importance, and it has been hoped that Pavilion F would open a way to secure this not heretofore available boon. But the different counties meet a *pro rata* State tax for the care of the insane in the State hospitals, and the Superintendent of the Poor is very properly cautious as to the duplication of the expenditure.

The county of Albany cannot be expected to make payment for the care of its insane in a State hospital, and at the same time maintain a local institution to do the work. Unless, therefore, our public patients improve so rapidly as to keep the cost of care within that of commitment and transfer to a State hospital, they are obliged to leave. This condition has arisen in the logical sequence of events, and is unfortunate. It is a discrimination against the victim of mental disease, who is not yet placed upon the same footing as the sufferer from a physical ailment, although even more entitled to every effort for his restoration to health. Many individuals who are threatened with mental disorder, and need just such care as Pavilion F can give

to avert a calamity, cannot obtain this care, but must wait until enough advanced to satisfy a court of record that they are incapable of managing their affairs or unsafe to be at large. In other words, laws and conditions have developed to provide custody for incompetent or dangerous persons, but there is no statutory recognition of methods of prevention of insanity, or of efforts to anticipate its baneful tendencies when threatened in the individual. A curious paradox is revealed by the State laws governing the care of the insane and the administration of the State hospitals. The legislation of recent years provides complete supervision and scrutiny of all that takes place in the hospitals for the insane, and the power of the supervising body, the State Commission in Lunacy, is autocratic to an extreme. And yet, with all this care and all this protection of the inalienable rights of the patients, it has been made more difficult for them to get in. It would seem that the State, after adopting a most complicated system of legislating, ruling, supervising, and commissionerizing, looking to perfection of administration, realizes the imperfections of bureaucracy and mistrusts its own power. Apart from the sentimental or charitable aspect of the question, a practical or economic side is presented. It is an accepted postulate by specialists who have examined the question that every recovery from mental disease, no matter what the cost of obtaining it, is a saving to the State. When it is borne in mind that there are twenty-five thousand patients in the care of the State hospitals of New York, maintained at an annual expenditure of over five millions of dollars, the force of this statement may be appreciated. The necessity of early treatment is urgent, and it is the object of Pavilion F to give the opportunity. Whether the financial problem is to be met by public or by private generosity is still to be determined, but a real source of regret lies in the fact that not all the good possible is being accomplished.

The second group of patients are of the private class. For their admission there is no technicality or no intervention of public officials. They, or their friends for them, seek voluntarily the care of the hospital. The transaction must not be resisted by the patient or he cannot remain. The number who decline to accept this situation is strikingly small. In fact there are few patients in the earlier stages of mental disease who do not recognize their abnormal processes of thought and are not

apprehensive of the result. But any individual, even though standing upon this frightful brink, doubly needs assurance that in the event of his utter incompetency he will be fairly and disinterestedly treated and will have protection of both his affairs and his person. If he is able to comprehend his situation, he is permitted to enter Pavilion F only upon his own request, and with his own acquiescence. If he cannot appreciate what he is doing, needs such care as can be given in Pavilion F, and his responsible friends stand sponsor, he is received, but only on condition that those most reliable and most concerned keep themselves in close touch with the developments of his case. Many patients pass into a condition of exhaustion in which life is threatened. It is doubly necessary in such cases that the doors be thrown open and that every step of treatment is made known to those most interested. Exclusion and secrecy can only work harm, and the more difficult and more threatening the case, the greater the need of the sympathy and cooperation of the family or friends.

There is an unfortunate minority who are manifestly disordered but who understand what is going on and decline to subject themselves to needed treatment. No control of these patients can be exercised until judicial disposition of the cases is made. Pavilion F is frequently requested to receive and detain such patients, whether they assent or not. In fact there is resort to many subterfuges to encompass the unwilling patient. In one instance recently a physician was requested to etherize the patient and convey him unconscious to the hospital. It may not be necessary to repeat for the use of people thus situated, sorely tried though they be, that Pavilion F is not permitted to forcibly restrain any individual of his liberty.

The scheme thought feasible by Sir Toby Belch, in the days when *Twelfth Night* was written, is hardly practical now:

“Come, we’ll have him in a dark room and bound. My niece is already in the belief that he’s mad; we may carry it thus, for our pleasure and his penance, till our very pastime, tired out of breath, prompt us to have mercy on him.”

Thus two privileges are secured to patients by Pavilion F, which makes this department unique in general hospital administration. An opportunity is given to patients for treatment in their home locality, under the scrutinizing eye of their friends, and under the regulations of an institution for treatment of

all forms of disease; and secondly, for treatment in the early stages of disease without recourse to the tedious technicalities of legal procedure.

A natural aversion from persons of disordered mind prevails in the community, and no doubt patients do not always avail themselves as promptly as they might for fear of unpleasant associates or surroundings. Occasionally a lawyer or priest is seen surreptitiously entering the building to assure himself that no advantage of some unfortunate being is taken. But such suspicions are fading away, and each new case brings acquaintance of an ever widening circle of friends, confidence is established, and more and more is the sympathy of the community taking the place of the horror with which mental affections are popularly associated.

DISCHARGES

Of the two hundred and twenty-three patients discharged during the year forty-one recovered and eighty-five were improved. The percentage of cases thus distinctly benefited is fifty-six. Since the opening of the Pavilion the percentage of patients discharged as recovered and improved has been fifty-eight.

Seventy-four patients were discharged unimproved and twenty died. The causes of death were: exhaustion from melancholia, two; general paralysis, one; acute alcoholic delirium, two; drug addiction, one; organic disease of the brain, two; myelitis, one; fracture of the skull, one; nephritis, two; acute pneumonia, three; gastro-enteritis, one; pernicious anaemia, one; old age, three.

TREATMENT

Nothing is to be added to the principles enunciated in the report of last year. The cases which promise the best results are those who present some definite cause of mental deterioration. They have been normal and have succumbed to the stress of life. The condition is one of nervous or general debility, with exhaustion of the vital power, defective action of the organs, particularly those of eliminative function, complicated by mental symptoms. The mental state may be one of excitement, depression, of stupor or of active delirium. The pathological process is the same, so far as is known, whether manifested by turbulence or by apathy. In either event rest

and quiet with a plan of reconstruction or building up is the indicated line of treatment. It is necessary to rid the body of the accumulations of effete material, and to administer in as large quantities as can be assimilated, nutritious and easily digested food. Liquids are used at first, and milk, milk with eggs and broths are given in abundance. Water is required to be used in large quantities, the indication of sufficiency being the moisture and cleanliness of the tongue. The eliminative function of the skin is promoted by frequent bathing. Sponge baths in bed are given by the nurses when advisable. If the patient is strong, immersion in warm water is recommended at night, followed by a warm drink. This serves the additional purpose of promoting sleep. All of these measures are hygienic and come within the sphere of the activities of the trained nurse. In fact, the application of the routine practice of trained nursing proves the most effective means of restoring health, and the success attained is especially due to the intelligent work of the nurses. Drugs are of quite subordinate value. Those used are principally tonic in action. An occasional sedative is given, if the patient asks for temporary relief from restlessness, but stupefying doses are never permitted, and in delirium and other forms of restlessness from exhaustion these drugs are entirely prohibited. In the last report mention was made of subcutaneous and rectal injections of normal salt solution, so-called saline infusions. The results were beneficial and encouraging. During the past year no case presented in which the subcutaneous method was indicated, but in several instances the introduction into the bowel was practiced with gratifying results.

As may be seen in the accompanying tables, many forms of disease or defect are represented which offer no prospect of cure. In every community are individuals below the average in mental attainments, who, from time to time, are unable to associate with others or to remain at large. Such, for instance, are the cases of recurrent insanity, or of imbecility and feeble-mindedness. Their defection does not follow a palpable exciting cause, but represents a natural instability of the nervous system, or the rhythmical variation characteristic of nervous function. Although the first conception of Pavilion F was based upon the idea of active hospital treatment, a larger view has opened its doors to all of the mental emergencies of the people

in whose midst, and by whose generosity it was built. Many a period of unrest and turbulence has been calmed, and it has been found desirable to admit certain patients for temporary care until conditions justify a return home. Thus one young woman, subject to recurring attacks of mania, has, on several occasions, presented herself when the premonitory symptoms of the attack were felt, and has remained until restored to her usual state of health. For the same reason patients breaking down in old age have often been received, and their restless condition has been made more bearable.

ADMINISTRATION

When Pavilion F was opened for patients in February, 1902, Dr. Henry Hun was appointed a special committee on its affairs by the governors of the hospital. As it was a departure in hospital organization, and had no precedents upon which to base regulations for management, the following special rules were tentatively adopted by the Governors on March 9, 1902, and amended on April 13th of the same year:

(1) The attending specialist in mental diseases shall have general supervision of the pavilion and shall have medical charge of all the public patients in it.

(2) Any physician may at a private patient's or private patient's friend's request have medical charge of a patient in this ward, provided he conforms to the rules adopted for its administration.

(3) All nurses and orderlies in charge of patients in this ward shall be furnished by, or approved by, the Superintendent of Training School for Nurses.

(4) The physician in charge of each case shall decide who shall visit his patient.

(5) On admission, the superintendent shall obtain from the patient or his friends, a list of persons whom they would like to have see the patient; but shall consult the physician in charge before allowing any such person to visit the patient.

(6.) The price of care of a patient (not on county order) in the wards shall be \$8 or \$10 per week according to circumstances. The price of the East room on each floor shall be \$20 per week, of the Southwest room in each floor \$25 per week, of the Northwest room on each floor \$30 per week, of isolation rooms \$30 per week. The physician in charge of the pavilion, with the superintendent, shall have power to give a reduction of 30 per cent. from these prices.

(7.) The physician in charge may in his discretion transfer any patient from the ward to a private room, or from one room to another in Pavilion F, temporarily, without increase in price.

(8.) The senior and junior house physicians shall be house physicians for Pavilion F.

After several months of trial the plan was found to have difficulties. There was no way of fixing responsibility. It was shown that the setting aside of a building for this special purpose is not sufficient, and that it was impossible to treat one patient without regard for the others, and that all of the resources of the pavilion are called into use and need to be harmoniously exercised, if quiet and order are to prevail. The rules were consequently amended to read as follows:

(1.) No physician or surgeon, except the physician-in-charge, shall be allowed to treat patients in Pavilion F, except when they have been transferred from other pavilions on account of a sudden attack of insanity, when their attending physician or surgeon may continue to treat the original disease.

(2.) In Pavilion F the price for patients in the general ward shall be ten dollars; for patients in a private room, twenty-five dollars. This price for a private room may be reduced by the superintendent, with the consent of the physician-in-charge, but no patient shall be kept in "F" for less than ten dollars per week.

(3.) Patients paying less than ten dollars per week shall be moved to "F" only when they cannot be kept in the isolating rooms without detriment to the other patients, and then, only until their friends can be notified, so that these latter may make other arrangements.

The rule as it now stands provides for skilled treatment of surgical or other local disease. The hospital recognizes the specialties and has appointed experts at the head of each department. If a mental complication occurs in a patient under care for some local condition, and transfer to Pavilion F is necessary, the physician in charge of the case follows to ensure continuation of the treatment of the special condition. In the deliria of post-operative states, for example, it is preeminently desirable that the wound or other surgical lesion should be cared for by the surgeon. This rule has been found to present great advantages when regarded from the other aspect. It permits Pavilion F to secure the services of specialists in other departments for the benefit of its patients. Calls are not infrequently made upon the surgeons, gynecologists, obstetricians, electricians and specialists in diseases of the eye, ear, nose and throat, and such demands have always been promptly and courteously met. From the standpoint of the patient the situation is ideal, and the best advice is always obtainable.

FINANCIAL STATEMENT

Received from public patients.....	\$2,202 86
Received from private patients.....	7,397 05
	<hr/>
Total	\$9,599 91
	<hr/> <hr/>

The number of days' treatment.....	5,693
The average income for each patient per week.....	\$11.80
	<hr/> <hr/>

ENDOWMENT FUND

The gift of five hundred dollars from Mrs. McCartee, which was set aside as the nucleus of an endowment fund, remains untouched. It is hoped that this fund may be increased so as to yield an income for the maintenance of deserving patients. In a large city like Albany there are not infrequent cases of mental break-down resulting from overwork, worry and privation, and for them the care given by Pavilion F would effect a speedy restoration to health. Several such patients have been received, who occasionally have been found to be young men or women away from home seeking to support themselves in clerical or other positions.

ACKNOWLEDGMENT

The interest of the Board of Governors of the Hospital and Managers of the Training School for Nurses continues unabated. Visits of inspection and inquiry have been regularly made, and the details of administration fully considered. The work of the nurses merits the greatest approbation. There has been no indication of unwillingness, even when arduous and unpleasant tasks are required. Patience and persistence have been almost invariable. Under the discreet and faithful direction of Miss Anna Dewar, the nurse in charge, the affairs of the year have been conducted with unvarying smoothness. Great credit is due Miss Dewar for the establishment of an orderly routine, and for great exactness in the details of individual treatment.

To the Superintendent of the Poor of the County, Commissioner William H. Storrs, the hospital is indebted for unvarying courtesy and discrimination. He has shown intelligent appreciation of the real purposes of Pavilion F, and has steadily

resisted attempts of undeserving and improper cases for admission.

The following gifts have been received: Subscriptions to *The Argus*, *Munsey's Magazine*, *The Argosy*, *The Strand Magazine*, *The Ladies' Home Journal* and *Pearson's Magazine* have been continued by Mr. and Mrs. P. K. Dederick, jr.; from Miss Wilson has been received a table cover; from Mr. James Hogan, Mrs. William B. Jones and Mrs. Frederick Tillinghast, magazines; from Mrs. Henry L. Woodward, books; from Mrs. Simpson, photographs; from Mrs. Samuel B. Ward, two games of parchesi, two checker boards, two games each of tiddledy winks, logomachy and dominoes, and one Shakesperian game; and from Mr. J. Townsend Lansing, two framed pictures. These have been appreciated by the patients, and it is hoped that generosity in the direction of beautifying the ward and providing recreation may be abundantly manifested in the future as in the past.

THE TREATMENT OF ACUTE AND CHRONIC MAXILLARY SINUSITIS.

Read at the Annual Meeting of the American Laryngological, Rhinological and Otological Society (Eastern section), at Syracuse, N. Y., February 10, 1906.

By CLEMENT F. THEISEN, M. D.,

Lecturer on Diseases of the Nose and Throat, Albany Medical College.

The treatment of a maxillary sinusitis will of course depend to a certain extent upon the cause, and for this reason, all pathological processes about the roots of the teeth must be carefully looked into, and when present, removed. Diseased roots, however, are not frequent etiological factors, as by far the larger number of cases of antral disease are secondary to pathologic conditions in the nose.

Treatment of acute maxillary sinusitis.—In the majority of the cases of acute inflammation of the antral mucous membrane, a policy of conservative non-interference is best. By this I do not wish to be understood that nothing should be done, but that not *too* much should be done at first. We are probably all agreed on this point. Proper treatment of the nasal condition will in the majority of the cases be all that is necessary. When

the mucous membrane is much congested, particularly in the middle meatus, the use of equal parts of a weak cocaine and adrenalin solution is extremely useful. I am in the habit of saturating pledgets of cotton with this solution, allowing it to remain in the nose for a time. As there is usually a certain amount of pus in the nostrils, and as acute maxillary sinusitis so commonly complicates influenza, when the nasal mucous membrane is very much congested anyway, the use of sprays, particularly coarse sprays, is not without the danger of carrying infection to the middle ear. A very fine spray of a 1-20,000 or 1-30,000 adrenalin, with a little cocaine, may be used after the acute symptoms have partially subsided, but during the acute stage the cotton pledgets are safer.

I wish to take this opportunity to say a word against the use of the ordinary douche, by patients themselves, in the treatment of acute conditions of the sinuses. In a patient's hand this is sometimes a dangerous thing to use. The writer has had two severe cases of otitis media resulting from the use of the douche, the patients, in both cases, having received the douches from a general practitioner. During an acute sinusitis, the nasal mucosa is usually very much inflamed and with the presence of pus, an infection can, as before stated, be readily conveyed to the middle ear by way of the Eustachian tube. If it is necessary to wash out the nose, it should be done by the attending physician and not by the patient.

Inhalations from a steam atomizer or croup kettle, and hot external applications to the antral region, are very useful. I am in the habit of using a mixture of compound tincture of benzoin, oil of turpentine and tincture of hyoscyamus in a steam atomizer or croup kettle, and having it inhaled through the nose. If free drainage and some relief from pain should not be obtained by these measures in forty-eight hours, paracentesis may have to be resorted to, particularly if the tension symptoms are great.

Puncturing the antrum through the inferior meatus where the naso-antral wall is thinnest, usually about an inch back, is a simple procedure, but should be performed with strict asepsis. A sterile, warm, saline solution, answers very well for irrigating the antrum. In some acute cases, a single irrigation will suffice, in others, if the discharge from the antrum persists, it may have to be done a number of times. In such

cases a temporary opening through the inferior meatus, at the lowest possible point in order to obtain good drainage, may have to be made. The antrum can then be easily washed out.

We read much about washing out the antrum through the natural opening. Now, while this can be done in cases of chronic empyema, I must confess that when the nasal mucosa is much congested, except in exceptional cases, I believe it is not at all as easily accomplished in acute cases, as we are often led to believe. An oil spray of menthol and albolene, or menthol, albolene and hydrocarbolene, to which is added a small amount of cocaine or adrenalin, is very useful while the nasal mucosa is much congested.

Perhaps something should be said concerning the constitutional treatment of acute maxillary sinusitis. In the beginning of an attack, calomel, followed by a saline, and drop doses of aconite repeated until the patient perspires freely, are useful in relieving the congestion of the mucous membrane. I do not believe that the coal tar products are of much service in controlling the pain, although occasionally five-grain doses of phenacetine, or migraine tablets, repeated as often as necessary, will afford some relief. It is always wise to stimulate patients somewhat while giving coal tar products, because symptoms of cardiac depression have been known to develop after comparatively small doses of such drugs, particularly acetanilid. Morphine should not be used, because just as in acute frontal sinusitis, or mastoiditis, it masks the symptoms to such an extent at times, that well marked tension symptoms might be overlooked.

In connection with the question of irrigating the maxillary antrum, it is interesting to determine whether it is possible as stated by Lermoyez (*Annales de Maladies de l'oreille du Larynx, du Nez, etc., November, 1902*) for the frontal sinus to become infected by carrying some infected material into the sinus, during irrigations of the antrum of Highmore, either by way of the hiatus semilunaris, or even more directly, when a direct communication exists between the frontal sinus and the antrum. Menzel (*Archiv für Laryngologie und Rhinologie, Bd. XVII, Heft III, 1905*) has shown by his experiments on cadavers, that this is not possible. His conclusions are briefly as follows: The irrigating fluid injected through an opening into the antrum of Highmore only reached the frontal sinus, when an external

opening had also been made into the sinus. In all the trials made in which no external opening had been made into the frontal sinus, there was not a single case in which any of the irrigating fluid, even when forcibly injected into the antrum, reached the frontal sinus. The sinus being filled with air, will not allow the entrance of any of the irrigating fluid. In cases, on the other hand, in which an external opening had been made into the frontal sinus, the irrigating fluid could be readily forced from the antrum into the sinus. These investigations of Menzel would seem to be rather conclusive as showing that the frontal sinus can not be readily infected during irrigations of the antrum.

It is of particular importance in the acute cases to correct any nasal condition interfering with proper drainage from the antrum.

Chronic Maxillary Sinusitis.—To come now to the treatment of chronic maxillary sinusitis, which as a rule is a chronic empyema, I do not think that any methods of treatment except the operative ones need be considered.

Considering first the operation through the naso-antral wall, it may be said, that while this method is very successful in selected cases, in the writer's experience at least, it is not always followed by the best results. The writer has operated on a few cases of chronic antral empyema by this method, and in all but one case, the results were not good, the discharge did not entirely cease, and in two cases the radical operation through the canine fossa had to be performed eventually. In each case, a large opening had been made through the internal wall after resecting a little more than the anterior portion of the inferior turbinate, and the degenerated antral membrane and granulations were removed as thoroughly as possible through the nasal opening. Perhaps the writer's technic was faulty in some way, or perhaps the opening through the naso-antral wall was not large enough. This method has many strong advocates however, such as G. L. Richards, Freer, Rethi, Curtis, Myles and others. It is perhaps true as stated by Freer (*The Antrum of Highmore: the Removal of the Greater Part of its Inner Wall Through the Nostril for Empyema, The Laryngoscope, May, 1905*), that many of the operations through the naso-antral wall are not successful, because not enough of the internal wall is removed.

Rethi (*Wiener klinische Wochenschrift*, No. 34, 1904) recommends the removal of the anterior two-thirds of the inferior turbinate, and an extensive resection of the nasal wall of the antrum both in the inferior and middle meatuses.

Claoue (*Semaine medicale*, October 15, 1902) makes a large window through the inferior meatus.

H. H. Curtis (*The Laryngoscope*, October, 1903) reports an operation in which after the anterior third of the inferior turbinate is resected, an opening is made through the lower part of the inner antral wall with a trephine and enlarged with a burr. Case reports were not given in this paper.

Richards (*Journal of the American Medical Association*, September 16, 1905) reports good results with this method, because he states "that in many cases the antral mucous membrane is not particularly degenerated." A permanent opening is usually established through the naso-antral wall only in the chronic cases, and in the majority of these the membrane is not only degenerated but greatly thickened.

Coakley's investigations prove this conclusively (Observations upon the Pathology of Chronic Suppurative Inflammations of the Antrum of Highmore, *Transactions of the American Laryngological Association*, 1902). The pathological changes in the cases examined by him, showed great thickening of the mucous membrane in every case. This he found was due to an increase in the loose connective tissue layer beneath the epithelium.

I do not think that the operation through the naso-antral wall will turn out to be *permanently* successful in every chronic case where this thickening and degeneration of the antral mucous membrane exists.

Richards also states however that if the condition does not improve after a reasonable length of time with this method, any nasal operation alone will not be sufficient, and nothing less than the radical operation through the canine fossa will bring about a cure. The rule in all operative work upon the maxillary sinus, just as in the case of the frontal sinus, should be to perform the operation that will be followed by an *obliteration* of the sinus. Such an operation too, should be performed, that every part of the sinus can be directly inspected. This is not easy in operations through the nose. We all know how difficult it is to maintain an opening through the naso-antral wall, even

when a large opening is made. Granulations will develop and the opening will become small in a short time. In selected cases however, this operation is undoubtedly sometimes followed by excellent results, for which we have the testimony of the careful observers mentioned.

Where no ethmoid disease exists, and where the nostril does not contain numerous polypi, this operation may be tried first. When multiple polypi (a common symptom of chronic sinusitis) exist in the nose, in conjunction with a chronic purulent discharge from the antrum, the antral mucous membrane will be found greatly thickened and degenerated in *every* case, in fact in many cases the antrum itself will be found filled with polypi and granulations.

In such cases, where we have almost a positive assurance that the antrum will be found greatly diseased, it seems a better plan to perform the radical operation in the first place, rather than to establish an opening through the naso-antral wall and then later perhaps being compelled to perform the radical operation anyway. Nothing but the radical operation, the Caldwell-Luc, or some modification, and the *complete* removal of the antral mucous membrane will result in a cure in many such cases. I will not describe the technic of the radical operation, as it is so familiar to everyone. Just as much of the anterior wall as possible should be removed and all of the mucous membrane. The writer has found the Luc forceps very useful for rapidly removing polypi and granulations from the antral cavity.

It is almost impossible to remove all of the degenerated membrane by any except the radical operation. The Coakley lamps, that are so useful in frontal sinus work, are of the greatest service for inspecting the antrum while operating. There is no *positive* assurance, in cases where the operation through the naso-antral wall has been performed, and the opening is finally allowed to close, that the sinus may not again become infected, particularly during influenza epidemics.

In conclusion the writer would briefly report the two following, rather unusual, cases of chronic antral disease.

Mr. J. L., merchant, aged 45 years, has been under the writer's care for several years for recurring nasal polypi. During the past four years, polypi have been frequently removed from the left nostril. Antral disease was diagnosed when he first came under observation, but he was always satisfied with the relief obtained after the removal of the polypi,

and persistently refused any other operative work. During the past year the discharge of pus was so profuse, the polypi recurring about every two months, and he suffered so much from pain in the left half of the head and in the eye, that he consented to the radical operation. This was performed in the usual way, and the left antrum, which was very large, was found filled with pus, and a mass of apparent polypi and soft granulations. There was very free bleeding when these were cleared out with Luc's forceps. The mucous membrane, which was greatly degenerated and thickened was removed with curetts. It is now a number of months since the operation has been performed, and there is no discharge from the nose, the left nostril being entirely clean. The histological examination of the mass removed from the antrum is interesting. It is as follows:

Bender Hygienic Laboratory,
Albany, N. Y.

The specimen removed from the antrum shows a very rapidly growing papillary polyp, with infection, degeneration and necrosis. There is no definite evidence of malignancy, but from the general appearance of the tumor, I would advise careful watch for recurrence.

Very truly yours,
R. M. PEARCE,
Director.

This examination explains the rapid recurrence in the nostril after each removal of the growths. The histological examination is also of interest, because it shows perhaps the first stage in the change of a benign to a malignant growth. The earlier examinations of the growths removed from the nose, in this case, showed that they were the ordinary polypi. The last examination of the growths removed from the nose, also showed however, a beginning change in the histological structure.

The second case is that of a young woman, aged 36 years. She has had a purulent discharge from the right nostril for years. Transillumination showed a shadow under the right eye, and a dark pupil. On examination, numerous polypi were found in the middle meatus of the right nostril. The anterior ends of both inferior and middle turbinates were much enlarged and oedematous.

She would not consent to the radical operation, so that after removing the polypi, the anterior end of the middle turbinate, and a little more than the anterior third of the inferior turbinate, an opening was made through the inferior meatus. The antrum was filled with soft granulations and there was a free discharge of pus. The patient's general condition was so poor, that the pus from the antrum was subjected to a microscopical examination. It was found to contain tubercle bacilli. None were found in the sputum however, nor could any general tuberculosis be discovered. Coakley, in the paper before mentioned, reports the case of a young man, aged 26 years, with double antral disease.

Microscopical examination of the scrapings from the left antrum, showed the presence of giant cells and a few tubercle bacilli. Sputum examinations in this case were also negative.

Before closing this paper the writer would like to say a word about the use of "Somnoform" in operations upon the upper air passages.

It is an admirable and safe anesthetic, and can be used to great advantage as a preliminary step in the administration of ether. It is used in a special "Somnoform" inhaler. It is composed of chloride of ethyl, sixty per cent., chloride of methyl, thirty-five per cent. and bromide of ethyl, five per cent. The patient is completely under the influence of Somnoform in thirty or forty seconds, and then the administration of ether can be started at once. It does not produce cyanosis as is the case with the ordinary nitrous oxide gas. It certainly shortens the administration of a general anesthetic very much.

Editorial

Tom lit the fire and warmed some beef soup. George ate some, but very little; however, he drank a great jugful of water, then dozed, and fell into a fine perspiration. It was a favorable crisis, and from that moment youth and a sound constitution began to pull him through; moreover, no assassin had been there with his lancet.

It is Never too Late to Mend.

CHARLES READE.



The thirty-third annual meeting of the Alumni Day, Alumni Association of the Albany Medical College will convene at half after ten o'clock in the morning of May 1, 1906. The Association has prospered, and the particular features of the meeting have developed from year to year. There has been more systematic arrangement of class reunions. The biographical histories of the decennial classes have been more exhaustively and accurately prepared, and the decennial classes have attended the reunions in greater number. The circular recently mailed

to every member of the Association urges especially the attendance of members of the decennial classes.

The classes of '56 and '66 will hold their reunion meeting in the Chemical Laboratory; '86 in the Chemical Lecture Room; and '96 in Recitation Room A. The Association for the first time in many years will not hold its general meeting in what has been known as Alumni Hall. This large room has been given over during the year to the Department of Physiological Chemistry, and is now equipped and used as a laboratory.

The program for the day is as follows:

9.30 A. M. Reception in Library.

10.30 A. M. General Alumni Meeting: Faculty Address of Welcome by Professor Howard Van Rensselaer, M. D.; Report of Historian; miscellaneous business; President's address; election of officers.

12.00 M. Reunions of Decennial Classes.

3.00 P. M. Commencement Exercises at Odd Fellows' Hall. Address by Hon. Andrew S. Draper, LL.D., New York State Commissioner of Education.

The Alumni Dinner will be held at the Hotel Ten Eyck at eight o'clock. Following the custom of recent years small tables will be used, and the banqueters will group themselves for the promotion of the utmost cordiality. The price of the dinner ticket has been placed at three dollars, and it has come to be understood that all of the material social intellectual features of this Alumni Dinner are most agreeably worked out.

There are so many questions in medical education, in medical practice, and in medical ethics constantly demanding consideration, that gatherings of this kind for an interchange of thought are necessary, not only for the general welfare of the profession, but for the promotion of individual interests. The Alumni of the Albany Medical College have been active and loyal, and it is expected that the meeting of 1906 will reveal characteristic energy.

Little Biographies

V. EUSTACHIUS.

BARTELEMMEO EUSTACHIUS was an Italian anatomist, born in the early part of the sixteenth century. The exact date and his birthplace are not definitely known. He was one of the great anatomists of his time, second only in fame to Vesalius.

He was physician to the Duke of Urbino and in 1562 became city physician of Rome and a year later professor of medicine in the College Della Sapienza at Rome, which position he held until his death in 1574.

His name is indelibly associated with anatomical science through his discovery of the Eustachian tube and the rudimentary valve of the heart which also bears his name. His attempts to shield Galen's reputation from the attacks of Vesalius and others indicate that he was a defender of the father of anatomy rather than an opponent, as were most of his contemporaries.

His chief discoveries were in the domain of comparative anatomy and embryology. He was the first to give accurate description of the thoracic duct and was probably first to notice and describe the "Stapes" (one of the chain of small bones crossing the tympanic cavity of the ear).

He likewise contributed materially to the diffusion of more accurate knowledge regarding the development and evolution of the teeth and the structure of the kidney.

The contemporaries and successors of Vesalius aided much in placing gross anatomy upon a secure and lasting foundation. The most illustrious among these was Eustachius, and he is regarded as one of the founders of modern anatomy.

Eustachius made many corrections of the work of Vesalius and was an original investigator of great force. From plates prepared by him, but not published until the eighteenth century, it appears that he anticipated many discoveries ordinarily ascribed to anatomists of later periods.

He, with Aristotle and Fallopius, had surmised that the organs of the body might be composed of simpler elements.

WILLIAM M. DWYER.

Scientific Review

THE CEREBRO-SPINAL FLUID IN HEALTH AND DISEASE.

THE DIAGNOSTIC AND THERAPEUTIC VALUE OF LUMBAR PUNCTURE.

It is only within the last fifteen years that the study of the cerebro-spinal fluid has attracted the attention of the medical profession and become an important element in diagnosis. The fluid is obtained by lumbar puncture, an operation devised by Quincke in 1891, which is performed as follows: The patient lying on his left side or sitting up with his back strongly arched, a needle six cm. long and three-quarters mm. wide is introduced between the third and fourth, fourth and fifth or even between the fifth lumbar vertebra and the sacrum. In general the point where a line drawn at the level of the iliac crests crosses the middle line may be considered a suitable landmark, the first interspace above or below the point being chosen for the introduction of the needle. The field of operation should be previously sterilized and the procedure conducted with all the aseptic precautions of modern surgical technique.

The needle may be introduced in the middle line in children and one cm. to the outer side in adults, directed inward in the latter case and slightly upward in both, and pushed in a distance of from four to eight cm. as the case may be, until the resistance is overcome, when the cerebro-spinal fluid will be seen to flow out drop by drop.

Originally a mercury manometer was attached to the canula in order to ascertain the varying change in the tension of the fluid during its removal. Normally the tension varies between seventy and 150 mm. and it was recommended never to allow it to sink below fifty mm. Although a number of delicate instruments have been devised for this purpose, the long experience of careful clinicians has warranted that such a refinement be abandoned. The results are inconstant and subject to the widest variations. The tension is much increased in meningitis and cerebral tumor; being often 250-300 mm. and even reaching 800 mm. in rare cases. (Recken). Aspiration should always be avoided.

The quantity of fluid removed varies from ten to forty cc. but much larger quantities have been removed; usually fifteen to

twenty cc. will suffice. The fluid should be received in sterile test-tubes and examined physically, chemically, microscopically and bacteriologically. Although the amount of cerebro-spinal fluid present under normal and pathologic conditions cannot be determined clinically, completeness of description requires the consideration of this point. According to Codugno, Magendie, Bichat, etc., the amount normally varies between seventy and 150 grams. It is increased in the various forms of meningitis, acute and chronic. In mild cases of hydrocephalus, 200-400 gm. are usually present, and it is not rare to find one-half to one liter in this affection. Extreme cases have been reported in which even five litres were found.

Normally the cerebro-spinal fluid is perfectly clear, but pathologically it may be hemorrhagic; this hemorrhage may result from the local traumatism occasioned by the puncture, or may be due to an organic hemorrhage within the central nervous system. In a general way, blood which comes from a lesion of the central organs, does not coagulate in the test tube, and, if the fluid be allowed to stand a few hours and settle, the overlying liquid will have an amber coloration, which, according to Mathieu, will persist even after the fluid has been centrifugalized. In this connection however, it must be borne in mind that hemorrhage may occur in the course of fibrinous meningitis and the fluid obtained in such a case does undergo coagulation owing to the meningeal reaction.

When a large hemorrhage has ruptured into the ventricles, almost pure blood may be obtained. Such a result is mechanically impossible in epidural haematoma; but in this latter condition, Chauffard and Froin have observed a yellowish fluid devoid of haemoglobin and red blood cells and the color of which was supposedly due to a blood-pigment called "luteine" and described by Hénocque. Blood may also occur in subdural hematoma, in which case the fluid is often only slightly tinged. According to Moindrot, more or less pronounced shades of yellow may be observed independently of meningeal and cerebral hemorrhage, in cases of cerebral tumor, the color being due to the presence of a pigment coincidentally elaborated.

Apart from the admixture of blood, variations in the color of the cerebro-spinal fluid occur in certain diseases the fluid becomes cloudy in many forms of meningitis, the degree of cloudiness varying considerably in different cases.

In cerebro-spinal meningitis, the fluid is often only slightly sero-purulent, whereas in purulent meningitis, or where an abscess has ruptured into the subarachnoidean space, pure creamy pus may be found. In tubercular meningitis, in serous meningitis and also in hydrocephalus and cerebral tumor, the fluid is usually perfectly clear and colorless. Whether cloudy or not, the fluid rarely undergoes coagulation in even inflammatory diseases of the central nervous organs, such as: tumors and abscess, and when coagulation occurs, it indicates an acute inflammatory process. In tubercular meningitis the coagula are delicate and spider-web like; in purulent meningitis they are much denser and much more abundant.

The specific gravity of the cerebro-spinal fluid normally varies between 1.005 and 1.007 and may reach 1.012 in inflammatory diseases.

The reaction is always alkaline and more so in the morning than in the evening according to Cavazzani.

Cryoscopic Analysis. The estimation of the osmotic tension of the cerebro-spinal fluid has also some interest, and may be determined by cryoscopic analysis. Cryoscopy shows that the freezing point of blood serum is -0.56°C ., while that of normal cerebro-spinal fluid is between -0.72°C . and -0.78°C ., thus cerebro-spinal fluid is hypertonic with regard to blood serum. This hypertonicity is inverted in cases of acute meningitis where the cryoscopic point of the fluid varies between -0.50°C . and -0.56°C .; hence cerebro-spinal fluid has become hypotonic with regard to the blood. This hypotonicity confirms the diagnosis of an acute meningitis but gives no clue as to its nature.

The chemical composition of cerebro-spinal fluid is tabulated as follows by Gautier:

Water.....	987.00
Albumen.....	1.10
Fat.....	0.09
Cholesterin.....	0.21
Alcoholic and aqueous extract, minus salts.....	} 2.75
Sodium lactate.....	
Chlorides.....	6.14
Earthy phosphates.....	0.10
Sulphates.....	0.20
Ammonia.....	—

The chlorides and especially the chloride of sodium (6-7 grams per 1000) represent the predominating inorganic elements of the fluid (Dircksen). According to Geoghegan however, the percentage of potassium salts would be higher than that of the sodium salts.

It has been known for a long time that the cerebro-spinal fluid contains a substance capable of reducing Fehling's solution, but most authors claimed that this substance neither undergoes fermentation nor forms an osazen when treated with phenyl hydrazin. Halliburton maintained that this substance was pyrocatechin. Cavazzani found in the cerebro-spinal fluid of man and animals a diastasic, glycolytic and oxidizing ferment. Nawratzki, who experimented mainly on cattle, claims that sugar is always present. Hofmann found in eclampsia a substance which gave the Drechsel reaction for carbonic acid, reduced copper oxide, but which gave a negative result when treated with Nylander's solution and did not undergo fermentation. This seemed interesting as it confirmed the views of Ludwig and Sabor, who believed that eclampsia is due to carbamic acid intoxication. Pfaundler and Bernard claim that sugar is normally present. v. Jaksch denies the existence of sugar, but maintains that a product closely resembling grape-sugar is always present. He calls it "Isomaltose" and determined by means of Fehling's method that its normal quantity varies between six hundredths and eight hundredths per cent.

Blumenthal denies the existence of pyrocatechin, and thinks that ordinary grape-sugar is more likely present than "Isomaltose."

More recently the interesting studies of Gillard and Sicard have thrown much light on this long controverted question; both authors have independently arrived at almost similar conclusions. According to Sicard, the cerebro-spinal fluid normally contains glucose in the proportion of .50 centigrammes per 1000 grams. The quantity is increased in diabetes and may go up to one gramme or more. In all forms of acute meningitis, the quantity of glucose is diminished, varying between 0.10 and 0.25 per 1000 gr. The author insists upon the importance of the diminution in differentiating a true meningitis from the meningeal syndrome so common in the various acute infectious diseases.

Gillard places the proportion of glucose between .40 and .56 centigrammes per 1000 gr. and denies the existence of pyrocate-

chin. Zambelli states that the amount of sugar is diminished in tubercular meningitis and that it disappears entirely in purulent meningitis. By the intraperitoneal injection of adrenalin in dogs, Bierry and Laloa have determined an appreciable augmentation in the quantity of sugar in both the blood and cerebro-spinal fluid. Lichteim found by means of the phenylhydrazin test, that glucose was present in all of the cases of cerebral tumor which came under his observation. Quincke claims that the presence of sugar can invariably be demonstrated, if the liquid obtained be sufficient in amount for the necessary tests. Still, Fürbrenner found sugar in only two cases of diabetes associated with tuberculosis.

Normally the cerebro-spinal fluid contains a trace of serum-globulin, but no serum-albumen, fibrin or fibrinogen. Nawratzki, in his report on the albuminous constituents of the fluid, says that serum-albumen, peptone and albumose are absent and that globulin only is normally present. Comba who performed sixty-four lumbar punctures in children, considers that the normal quantity of albuminous bodies varies between 0.008 per cent and 0.04 per cent. There is a great increase in the various forms of meningitis, the slightest augmentation occurring in the metapneumonic form. v. Jaksch found serum-albumen in all cases of uraemia the quantity varying between 0.03 per cent and 0.05. per cent. In locomotor ataxia, general paresis, syphilitic meningo-myelitis and hemiplegia, Widal and Sicard have always detected the presence of serum-albumen. Pfaundler and others have shown that the greatest amount of serum-albumen occurs in acute meningitis, especially in the tubercular type.

A faint trace exists in chronic hydrocephalus, serous meningitis and cerebral tumor. The largest amounts have been recorded in the various forms of acute meningitis and especially in tubercular meningitis (Pfaundler). It must be stated that the researches of Deniges and Sabrazes have not confirmed Pfaundler's views concerning the relative quantity of albumen in the various types of meningitis. According to these authors, the proportion varies between five and fifteen per 1000 in the acute forms and only reaches one to two and eighteen one-hundredths in the tubercular form.

Until very recently, it was considered that normally, urea was only an occasional constituent of the cerebro-spinal fluid; but Tonello maintains that a substance capable of reducing hypo-

bromate of sodium is invariably present and Widal and Froin have come to even more precise conclusions. According to these authors, the normal fluid contains 0.15 to 0.35 centigrammes per litre and the quantity is very much increased in Bright's disease.

They report two cases in which the percentage rose to 2.94 and 4.35 centigrammes per litre. v. Jaksch has also insisted upon the increased proportion of urea in cases of acute uraemia.

The question of the passage of biliary acids and pigments into the cerebo-spinal fluid has attracted much attention of late. Mongour made careful analyses in six cases of jaundice and says that a modification of color is rare and that even when cholae-mia and choluria are intense, the biliary pigments and acids do not exist in the cerebro-spinal fluid in sufficient quantity to be appreciated by the usual tests. To explain this fact, he assumes that either the bile products transuded along with blood serum are transformed in the subarachnoidean cavity, or that the cerebro-spinal fluid is itself not a transudate but a true secretion, probably derived from the choroid plexuses.

Shortly after these facts were made known, the interesting experiments on dogs published by Ducrot and Gautrelet confirmed the views advanced by Mongour. From two to eight days after the production of an experimental jaundice, the external carotid artery was temporarily ligated and three cubic centimeters of a saturated solution of methyl-violet were injected into the internal carotid; this substance fixed itself upon the choroid plexuses within fifteen minutes and inhibited their action. The cerebro-spinal fluid was then no longer colorless as it was one-half hour before the operation, but had become distinctly yellow and gave a positive reaction with Gmelin's test. Twenty-four hours later, the methyl-violet had been eliminated, the fluid had resumed its normal appearance and Gmelin's test was negative. It thus appears that the choroid plexes act as true secreting glands, since arrest of their function, gives the cerebro-spinal fluid all the characters of a transudate.

The study of the permeability of the meninges in health and disease offers considerable interest aside from the consideration of products normally present in the system. The fluid has been carefully tested after the ingestion of subcutaneous or intra-venous injection of various drugs.

v. Jaksch has never detected the presence of salicylic acid,

the salicylates, the iodides and the silver preparations after their administration per oram.

Castaigne claims that in uraemia, methylene blue and iodide of potassium do pass into the cerebro-spinal fluid, if injected subcutaneously.

Widal, Sicard and Monod maintain that iodide of potassium does not pass into the cerebro-spinal fluid of normal individuals nor in cases of cerebro-spinal meningitis, but does appear in tubercular meningitis. These facts have since been corroborated by Griffon. In a later contribution Sicard claims that an absolute impermeability to mercury is the rule, and relates that in two cases of tabes and one of general paresis despite a most rigorous specific treatment, the examination of the fluid remained negative. He believes that this impermeability explains the frequent inefficiency of mercurial treatment in cerebro-spinal syphilis and suggests the feasibility of the subarachnoidean injection of the soluble salts, extreme care being taken.

More recently Cruchet reports twenty-eight cases of nervous affections in children, in which iodide of potassium taken by mouth was never detected in the cerebro-spinal fluid; eight of these cases were tubercular meningitis and the author strongly denies that iodides invariably pass into the fluid in this affection.

Jacob and Blumenthal, and Ransom have shown that when injected subcutaneously in animals, the toxins of tetanus do not appear in the fluid. Milian and Legros have studied the fluid in human tetanus and have never been able to reproduce the disease in mice by the inoculation of even massive quantities of the fluid of affected patients. Still, Blumenthal and Stintzing each report a case of tetanus in man where the toxins were found.

But if substances introduced into the vascular system find their way only with difficulty into the cerebro-spinal fluid, the reverse is not true and it has been clearly demonstrated by many observers that both drugs and bacterial toxins rapidly enter the general circulation if injected into the subarachnoidean cavity.

Thus, Lewandowsky found that strychnine poisoning could be determined in animals by using one-tenth of the dose required when the drug was introduced into the vascular system and that the symptoms came on with astonishing rapidity. He also ascertained that a few centigrammes of sodium ferrocyanide

would bring about marked symptoms of intoxication, whereas it required four--six grammes to produce the same phenomena when the drug was injected into the jugular vein. The presence of the ferro-cyanide could moreover be detected in the urine, fifteen to thirty-five minutes after its introduction. Jacob found methylene blue in the urine two hours after it had been injected into the subarachnoidean space.

Similarly, Behring who experimented on chickens succeeded in producing tetanus, after subcutaneous and intravenous injection of the tetanic toxines had remained without effect.

Blumenthal and Jacob determined tetanus in animals within ten hours and found both the toxines and antitoxin of tetanus in the blood after lumbar injection of the same.

The rapid and effective anesthesia secured by subarachnoidean administration of cocaine and stovaine has acquired considerable importance in surgery within the last few years and need not detain us here.

It seems that substances introduced in this way come in direct contact with the nerve cells of the brain and spinal cord by way of the lymph channels—a free communication existing between these channels and the subarachnoidean cavity. Animals which had been subjected to these various experiments have been sacrificed and according to Jacob, Schwaebe, Key, Retzeus and Quincke the perivascular lymph spaces have been found filled with methylene blue and sodium ferrocyanide in combination with iron.

Advantage of these facts has been taken in practical medicine. In the treatment of hydrophobia at the Pasteur Institute, the serum has been administered by sub-dural injection and the same method has been adopted by Jacob and Blumenthal, Sicard, von Leyden and Schultze, Heubner, Kraus and others for the introduction of anti-tetanic serum. Sicard has advocated that in tetanus, massive doses of the serum be employed and claims to have had very good results.

Widal and Sicard have shown that agglutinin never passes into the cerebro-spinal fluid. Lewandowsky has never found alexin and claims that the fluid has no haemolytic power.

Perhaps the most interesting question relative to the chemistry of the cerebro-spinal fluid, is the occurrence, under particular circumstances, of choline.

Mott and Halliburton were the first to draw attention to the

fact that choline is present in the blood and in the cerebro-spinal fluid whenever a more or less active destruction of nervous tissue takes place.

Chemically, choline is derived from lecithin (or rather from protagon) as a degenerative product and is thus considered to be intimately related to the myelin of myelin sheaths of nerve fibres.

According to Gumprecht choline can be found in the normal fluid, but this assertion is actually discredited—at least, it is maintained that if choline really exists normally, it is only present as a faint trace which can practically be discarded and which compares in no way with the appreciable quantity occurring under certain pathologic conditions.

Mott and Halliburton have found choline in general paresis and in cerebral atrophy.

More recently the valuable contributions of Donath, Wilson, Coriali Rosenfeld and others have thrown much light on this interesting subject.

Donath's method of examination is usually employed. Ten c.c. of the cerebro-spinal fluid are placed in a sterile test tube, acidulated with chlorhydric acid evaporated to dryness and exhausted by means of absolute alcohol. Then one or two drops of a solution of platinum chloride in absolute alcohol are added and a double chlorhydrate of platinum and choline is formed *i. e.* chloroplatinate of choline. Sometimes the alkaline chlorides are also precipitated and may render it difficult to recognize the choline crystals,—to avoid this, the precipitate is dissolved in 15 per cent alcohol—this weak solution dissolves only the choline crystals; the solution is then filtered and allowed to evaporate. The choline crystals appear as plates, rods, straight or curved needles, sometimes they are so disposed as to form tufts, rosettes, —occasionally prisms or dentated forms may be observed; they are distinctly yellowish.

At first Donath gave most of his attention to the study of the fluid in epilepsy; he showed that choline was invariably present when the attacks were frequent and attributed to it an important rôle in the production of convulsions. He also thinks that choline is responsible for the epileptiform seizures in the course of general paresis. Wilson thinks that choline is more likely the effect than the cause of the attacks.

Wilson made careful examination of the cerebro-spinal fluid

in thirty cases of nervous disease in Marie's clinic, and made control tests in various other affections, rheumatism, tuberculosis, asthma, etc.

He found choline in cerebral hemorrhage, in tubes (in ten out of twelve cases) idiopathic epilepsy, Jacksonian epilepsy, transverse myelitis, cerebral tumor, haematomyelia, cerebral softening, syphilitic hemiplegia and general paresis.

Wilson insists on the value of this test in the diagnosis between hysteria and the organic diseases. No relationship exists between the presence of choline and lymphocytosis—yet, when a lesion is purely meningeal (lymphocytosis) choline is rarely found, and when choline is present, a lymphocytosis is often absent.

Donath has experimented on dogs, rabbits and guinea pigs and has shown that the subdural or intracortical injection of the chlorhydrate of choline produces violent tonic spasms which are sometimes followed by paralysis.

A few weeks ago, this author devised a new method for the study of the choline crystals.

The method is based on the proof of the double refraction of chloroplatinate of choline and obviates all possibilities of misinterpretation.

By a long and minute technique, the various bodies which may be found in the cerebro-spinal fluid (protein, bilirubin, fat, glucose, urea, cholesterin, lactic acid, iron, earthy phosphate, etc.), some of which possess double refraction, are eliminated and the final precipitate contains only chloroplatinate of potassium, ammonium and choline.

With the exception of choline, the substances present belong to the regular system of crystallization. By means of the polarizing microscope, there can be no difficulty in recognizing the choline crystals.

Donath has studied the fluid of 27 patients by this method and gives the following table.

Seven cases of general paresis—6 cases positive.

Three cases chronic myelitis, all positive.

Six cases idiopathic epilepsy—4 cases positive.

One case hystero-epilepsy—positive.

Three cases tubercular meningitis—all negative.

Four cases tabes—all negative.

One case syphilitic headache—positive.

One case spinal spasmodic paralysis—negative.

One case neurastheina.—negative

As might be expected, attempts have been made to determine the exact nature of cerebro-spinal fluid from its chemical composition and from the peculiarities of its behavior under pathologic conditions of the system.

Can it be considered a transudate? The proportion of its albuminous constituents is much lower than in blood, 0.2% against 7% it is also lower than that of lymph 4.5%. Lewandowsky says that that alone does not suffice to exclude transudative character of fluid, as in the ascites of cachexia, the albumen proportion may sink to 0.03%. On the other hand, cerebro-spinal fluid contains normally no serum-albumen and the important fact that agglutinin and alexin have never been found, justify the assertion that it is not a transudate. Lewandowsky thinks that the fluid is a specific product of the brain. Spina who is of the same opinion, claims that it is derived from the brain substance or from its capillaries, but not from the choroid plexes. According to Blumenthal, the cerebro-spinal fluid must be considered as being a lymphatic secretion. Still, the experiments of Mongour, and of Ducrot and Gautrelet would lead one to regard the fluid as a specific secretion of the choroid plexes.

Certain authors have maintained that a true circulation of the cerebro-spinal fluid exists and that it differs in no way from that of lymph. The studies of Cathelin are especially worthy of consideration. According to the author, the fluid is derived from the blood and returns to it through the lymphatic system. The course which the circulation follows may be thus summarized (1) the afferent bloodvessels of the choroid plexes (secreting glands) (2) the arachnoidean cavity which acts as a reservoir but not as an excretory canal; (3) the perivascular sheaths, which are not truly lymphatic, but simply connecting channels through which the cerebro-spinal fluid reaches; (4) the paravertebral lymphatics and their glands, whence the greatly modified fluid returns to the cistern of Pecquet and the thoracic duct and finally enters the general circulation along with lymph through the left subclavian vein. The circulation of the fluid is dependent upon a number of factors; its own constant tension, the arterial pulsations of the subarachnoidean vessels, the respiratory movements, the varying attitudes of the body, etc.

Cathelin insists that the circulation of the fluid is not based on mere theory but is the logic outcome of well-established experimental facts. Thus, it has been shown that the choroid plexes are the true secreting glands of the fluid, that the fluid enters the various lymphatic glands of the system and finally we know that abundant quantities of the fluid are expelled whenever the subarachnoidean cavity is interested in traumatic affections of the head. Cathelin considers that the circulation of the cerebrospinal fluid is one of the best established facts of modern physiology

LA SALLE ARCHAMBAULT.

(To be continued.)

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH—CITY OF ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, MARCH, 1906

<i>Deaths.</i>	1902	1903	1904	1905	1906
Consumption.....	18	21	25	18	17
Typhoid Fever.....	2	1	1	3	2
Scarlet Fever.....	0	2	2	0	0
Measles.....	0	0	0	1	0
Whooping-cough.....	0	6	0	1	1
Diphtheria and Croup.....	1	2	0	1	1
Grippe.....	1	6	0	4	3
Diarrhoéal Diseases.....	0	1	3	1	1
Pneumonia.....	17	14	16	13	19
Broncho-pneumonia.....	1	4	6	8	6
Apoplexy.....	8	11	10	9	13
Bright's Disease.....	12	20	27	21	13
Cancer.....	11	6	3	7	13
Accidents and Violence.....	6	12	5	6	4
Deaths under 1 year.....	7	20	29	24	10
70 years and over.....	22	39	53	32	28
Total deaths.....	120	175	212	161	152
Death rate.....	14.12	20.59	24.95	18.21	17.89
Death rate less Non-residents	12.24	19.18	23.65	16.74	17.30

Deaths in Institutions

	1902		1903		1904		1905		1906	
	Resi- dent	Non- Resi- dent	Resi- dent	Non- resi- dent	Resi- dent	Non- resi- dent	Resi- dent	Non- resi- dent	Resi- dent	Non- resi- dent
Albany Hospital.....	10	6	16	5	17	6	7	8	7	3
Albany Orphan Asylum....	0	0	2	1	0	0	0	0	1	0
Child's Hospital.....	0	3	1	1	2	1	0	0	1	0
County House.....	4	2	4	2	7	0	0	0	4	2
Home for Aged Men.....	0	0	2	0	4	1	0	0	0	0
Dominican Convent.....	1	0	1	0	0	0	0	0	0	0
Home for Friendless.....	2	0	0	0	1	0	0	0	1	0
Homeopathic Hospital....	0	0	3	0	3	1	3	0	0	0
Hospital for Incurables....	1	0	1	0	1	0	0	0	0	0
House of Shelter.....	1	0	0	0	0	0	0	0	0	0
Little Sisters of the Poor...	1	0	2	0	4	1	4	0	2	0
Penitentiary.....	1	1	0	0	0	0	0	0	0	0
Public Places.....	4	2	2	1	0	0	1	0	0	0
St. Margaret's House.....	1	0	0	0	1	0	0	2	0	0
St. Peter's Hospital.....	6	2	5	1	6	1	7	2	4	0
Sacred Heart Convent.....									2	0
Births.....										73
Marriages.....										31
Still and Premature Births.....										6

PLUMBING INSPECTIONS

In the Bureau of Plumbing, Drainage and Ventilation there were 286 inspections made of which 149 were of old buildings and 137 were of new buildings. There were 52 iron drains laid, 11 connections with street sewers, 22 tile drains, 1 cellar drain, 6 urinals, 5 latrines, 134 cesspools, 131 wash basins, 97 sinks, 93 bath tubs, 73 wash trays, 1 butler's pantry sink, 1 trap hopper in yard, 176 tank closets, 2 slop hoppers, 2 stable wash stands. There were 73 permits issued, of which fifty-three were for plumbing and 17 were for building purposes. There were 19 plans submitted, of which 53 were of old buildings and 17 were for new buildings. There were 8 houses tested on complaint, 3 with blue, red and 5 with peppermint. There were 12 water tests made. There were 21 houses examined on complaint and 50 re-examined. Twelve complaints were found valid and 9 without cause.

BUREAU OF CONTAGIOUS DISEASES

Cases Reported

	1902	1903	1904	1905	1906
Typhoid Fever.....	5	5	12	4	3
Scarlet Fever.....	11	13	29	7	18
Diphtheria and Croup.....	8	11	13	2	10
Chickenpox.....	8	11	6	10	5
Measles.....	11	22	32	454	3
Consumption.....	4	4	0	3	1

CONTAGIOUS DISEASES IN RELATION TO PUBLIC SCHOOLS.

	Reported		Deaths	
	D.	S. F.	D.	S. F.
Public School No. 1.....	2	....	....
Public School No. 2.....	1	....	....
Public School No. 5.....	1	....	....
Public School No. 6.....	1	....	....
Public School No. 11.....	1	....	....
Public School No. 22.....	1	1	....	....
Public School No. 24.....	1	....	....
High School	1	....	....	....
New York State Normal College.....	1	....	....
Cathedral School.....	1	....	....

Number of days quarantine for diphtheria:

Longest, 35; shortest, 9; average, $17\frac{3}{8}$.

Number of days quarantine for scarlet fever:

Longest, 56; shortest, 13; average, $30\frac{3}{17}$.

Fumigations—Houses, 30; rooms, 70.

Cases of diphtheria reported.....	10
Cases in which antitoxin was used.....	8
Cases in which antitoxin was not used.....	2
Deaths after use of antitoxin.....	1

Society Proceedings

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

A regular meeting of the Medical Society of the county of Albany was held in the Albany Medical College March 14, 1906, at 8:30 P. M.

The meeting was called to order by the President. There were present Doctors Ball, Baldauf, Bedell, Beilby, Cook, Cox, Craig, Curtis, Gutmann, Happel, Holding, Laird, Lempe, Moore, C. H., MacFarlane, Moston, Neuman, Papen, Sampson, Traver, Winne, L. B., Winne, C. K., Jr., Wiltse.

The Secretary being absent Dr. Bedell was appointed Secretary pro tem.

DR. LEMPE moved that the minutes of the preceding meeting be accepted as printed in the ANNALS.

Dr. CURTIS as Chairman of the Committee on the Revision of By-Laws stated that the committee had been unable to meet. Dr. LEMPE made a motion that the committee on the Revision of the By-Laws be given until April to report. Carried.

Dr. MACFARLANE offered the following resolution: That the Secretary of this Society be authorized to ascertain the attitude of the pharmacists of this county in regard to Senate bill No. 258 and Assembly bill No. 458 and report the results obtained at the annual meeting. Carried.

Dr. HOLDING offered the following resolution:

Resolved, That the members of the Albany County Medical Society Express their appreciation of the manner in which the Anti-Narcotic League, *Collier's Weekly* and the *Ladies' Home Journal* have condemned the sale of propriety remedies under false pretenses and that a copy of this resolution be forwarded to the above mentioned League and periodicals by the Legislative Committee.

Dr. BALL offered the following resolution:

Resolved, That the Censors report at the annual meeting whether or not Homeopaths are eligible to membership in this Society.

Dr. HOLDING then read his paper on "Coxa Vara in Contradistinction to Hip Joint Disease and Congenital Dislocation of the Hip.

Dr. LAIRD then read his paper on "A Review of Some of the Recent Literature Regarding the Widal Reaction."

Dr. CURTIS expressed his appreciation of Dr. LAIRD's paper, especially the practical manner in which the doctor had demonstrated the value and applicability of the test.

Dr. NEUMAN spoke of his work with the Widal, when he had succeeded in getting typical reaction with normal blood and had failed to get it in a case of typhoid with a 1-20 dilution after Johnson had said 1-30 was strong enough. At that time some observers, including himself, thought this was not so, and he was glad that Dr. LAIRD had said that this reaction occurs without typhoid fever. Among the cases brought to his mind in which the test was of practical value was one occurring in the Albany Hospital: a patient with continued fever showed no other symptom of typhoid, no enlarged spleen or liver; clinically it was diagnosed as typhoid, the Widal was positive, at the end of the second week the patient died, but on autopsy intestinal lesions were not found, but cultures showed the presence of the typhoid bacillus. Another case was one of gall stones with obstructive jaundice without fever. He made a Widal and discovered the bacillus. Another case six years after having typhoid fever: the patient had severe pains without jaundice; positive Widal, stones in the cystic duct. In all cases 1-40 or 1-60 dilution. He was especially interested in the charts and thought that with a fair dilution we could feel sure in all but two to five per cent of the cases. He considered the method should be used in all cases.

Dr. WINNE wished to express thanks in behalf of the laboratory men, and said while he had had much experience and seen many patients, Iverson's work had not been done at that time and many perplexing things and differences in opinion arose in this city and in Johns Hopkins. He spoke of a case of locating infection regarding which Dr. Stanton spoke to him. The case was one in the Philadelphia Hospital where the blood was sent to the laboratory and positive Widal was reported. The clinicians were amused. Nevertheless an operation was performed and an abscess cavity was found from which pure cultures of the typhoid bacillus were obtained. He agreed with Dr. Neuman regarding their presence in jaundice and said that he himself had found viable bacilli in the centre of gall stones.

Dr. SAMPSON spoke of a case having pain in the lower abdomen and fever greater than the pain with a mass about the ovary and it was a question whether or not this condition was present with typhoid fever. Widal positive. On operation pelvic abscess and pyosalpinx were found. Cultures which were sterile later on showed positive Widal, while there were no signs of typhoid in previous history.

Dr. CURTIS asked regarding the temperature curve.

Dr. SAMPSON said there was no typhoid.

Dr. WILTSE then asked regarding the technic.

Dr. SAMPSON said that glass slides and glass tubing had been used.

Dr. LAIRD, in closing the discussion, said there was no difference between the clinical methods and that he did not consider this a distinguishing pathognomonic symptom, but nevertheless where conditions shows positive Widal we must consider it as a prominent symptom.

Dr. CURTIS made a motion to adjourn, which was carried.

ARTHUR J. BEDELL,
Secretary Pro Tem.

Medical News

Edited by Arthur J. Bedell, M. D.

THE ALBANY GUILD FOR THE CARE OF THE SICK. — STATISTICS FOR MARCH, 1906.—Number of new cases, 120; classified as follows: district cases reported by the health physicians, 6; charity cases reported by other physicians, 70; patients of limited means, 44; old cases still under treatment, 53; total number of patients under nursing care during the month, 173.

Classification of diseases (new cases): Medical, 31; surgical, 6; gynaecological, 1; obstetrical work of the Guild, 27 mothers and 28 infants under professional care; dental, 7; eye and ear, 1; nose and throat, 1; removed to hospital, 4; deaths, 4.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 4; attending obstetricians, 2; medical students in attendance, 8; Guild nurses, 7; patients, 9; number of visits by head obstetricians, 1; by attending obstetricians, 8; by the medical students, 61; by the Guild nurses, 102.

Visits of the Guild nurses (all departments): Number of visits with nursing care, 1,241; for professional supervision of convalescents, 176; total number of visits, 1,417. Five graduate nurses and 6 assistants nurses were on duty. Cases were reported to the Guild by 3 of the health physicians and by 37 other physicians and by 3 dentists.

NEW YORK STATE JOURNAL OF MEDICINE.—The ANNALS has received the Centennial number of the *New York State Journal of Medicine*, celebrating the one hundredth anniversary of the Medical Society of the State of New York.

PURDUE UNIVERSITY.—In May, 1905, the various Medical Colleges of Indiana were brought together under the general management of Purdue University. These included the Medical College of Indiana, Central College of Physicians and Surgeons and the Fort Wayne School of Medicine.

PERSONAL.—DR. MICHAEL J. THORNTON (A. M. C. '01) has been appointed expert alienist for the U. S. Government to examine immigrants entering New York harbor.

DR. W. G. ROMMEL (A. M. C. 1905) has started practice at Grapeville, Greene county, N. Y.

DR. WILLIS E. MERRIMAN, JR., (A. M. C. 1902) is in the hospital at Spuyten Duyvil, as resident physician.

DEATHS.—DR. GEORGE F. DEARBORN (A. M. C. '57) died at his home, Rockaway, N. J., March 26, 1906, aged 71, after a short illness from pneumonia. He was a surgeon in the Civil War.

DR. FORDYCE H. BENEDICT (A. M. C. '68) died at his home, Weedsport, N. Y., aged 61, from pneumonia. He was a member of the Cayuga County Medical Society, and a surgeon in the Civil War.

DR. FREDERICK A. SMART (A. M. C. '99) died at Cobleskill, N. Y., April 14, 1906.

In Memoriam

SELWYN A. RUSSELL, M. D.

The following memorial resolution is published by request of the Poughkeepsie Trust Company:

By the death of Dr. Selwyn A. Russell, which occurred at his home in Poughkeepsie, after an acute illness of three days in which his physicians alternated between hope and fear, the world has lost a man who, by reason of rare mental ability, Christian character and refined personality, was beloved and respected by all who knew him.

After graduating from the Albany Medical College and studying in Vienna, Doctor Russell spent some time in travel. He was one of the intellectual men of Poughkeepsie and his wide and intelligent view of the affairs of the world marked him as a conversationalist of unusual interest.

That those who knew him best felt that the world was better through his unselfish and spotless life, seems but a fitting tribute to his beautiful character.

WILLIAM M. WHITE, M. D.

Dr. William Maxwell White of Amsterdam died December 29, 1905, at the home of his mother, Mrs. Catharine J. White, No. 102 West Green street, that city. Dr. White was in his fiftieth year, having been born in Amsterdam March 28, 1856. He received his early education in the Amsterdam academy and was graduated from Union college at Schenectady in 1881. In 1886 he was graduated from the Albany Medical college with high honors, being the valedictorian of his class. He then located in Amsterdam and succeeded to the practice of his father, the late Dr. Joseph N. White. Dr. White continued in active practice until about a year ago, when his health began to fail as the result of overwork and he was afflicted with neurasthenia. In efforts to regain his health he visited various places. He had been suffering from a cold for several days and this suddenly developed into pneumonia, which speedily resulted in his death.

Dr. White was one of the most prominent professional men of Amsterdam and was also active in charitable and religious work. At one time he was president of the Amsterdam Y. M. C. A., and he was chairman of the relief committee which had charge of furnishing food and clothing to the unemployed and needy during the winter of 1903-4. He was also chairman of the relief committee which sent about \$4,000 to the Johnstown, Pa., flood sufferers. He was a member of the Amsterdam Medical Society, one of the staff of the Amsterdam City Hospital, took an active part in the Training School for Nurses, was Health Officer of the city of Amsterdam for several terms, physician to the Children's Home for many years, served as an officer of the Homeopathic Society of Montgomery and Fulton counties and was also identified with various Amsterdam organizations. Dr. White never married. Besides his mother, he is survived by two sisters, the Misses Sarah E. and Lucy M. White of Amsterdam, and one brother, Attorney Edward P. White, formerly of Amsterdam, but now of Buffalo.

The Amsterdam Medical Society attended the funeral in a body, sent a floral-piece containing its initials and adopted resolutions of respect. The bearers were Doctors Hicks, Stoner, Johnson and Bronk of Amsterdam, Garnsey and Eisenbury of Gloversville, Walrad of Johnstown and L. Faust of Schenectady.

FREDERICK ADAMS SMART, M. D.

Dr. Frederick A. Smart died at his home in Cobleskill, N. Y., Saturday, April 14, 1906. Dr. Smart was born in Troy about twenty-nine years ago, and graduated from the Albany Medical College with the class of 1899. He first located at Carlisle, N. Y., and then at Nassau, N. Y., going to Cobleskill in 1903. On the 26th day of June, 1902, he married Miss Lois Wilcox, a prominent lawyer. His wife and one child survive him.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

- Saunders' Question Compend. Essentials of Materia Medica, Therapeutics, and Prescription Writing.* By HENRY MORRIS, M. D., College of Physicians, Philadelphia. Seventh Edition, Thoroughly Revised. By W. A. BASTEDO, Ph. G., M. D., Instructor in Materia Medica and Pharmacology at the Columbia University (College of Physicians and Surgeons), New York City. 12mo, 300 pages. Philadelphia and London: W. B. SAUNDERS & COMPANY, 1905. Cloth, \$1.00 net.
- Dose-Book and Manual of Prescription-Writing:* with a List of the Official Drugs and Preparations, and the more important Newer Remedies. By E. Q. THORNTON, M. D., Assistant Professor of Materia Medica, Jefferson Medical College, Philadelphia. *Third Edition, Revised and Enlarged.* 12mo, 392 pages, illustrated. Philadelphia and London: W. B. SAUNDERS & COMPANY, 1905. Bound in flexible leather, \$2.00 net.
- Materia Medica and Pharmacy.* By Reynold Webb Wilcox, M. A., M. D., LL. D., Professor of Medicine at the New York Post-Graduate Medical School, Etc., Etc. *Sixth Edition*, Based on the Fifth Edition of White and Wilcox's "Materia Medica and Therapeutics." Philadelphia: P. BLAKISTON'S SON & COMPANY.
- Pharmacology and Therapeutics.* By the same author and publishers as *Materia Medica and Pharmacy.*
- A Text-Book on Modern Materia Medica and Therapeutics.* By A. A. STEVENS, A. M., M. D., Lecturer on Physical Diagnosis, University of Pennsylvania; Professor of Pathology, Woman's Medical College of Philadelphia. *Fourth Edition, Revised.* Octavo of 670 pages. Philadelphia and London: W. B. SAUNDERS & COMPANY, 1905. Cloth, \$3.50 net.
- A Text-Book of Materia Medica, Therapeutics and Pharmacology.* By GEORGE F. BUTLER, Ph. G., M. D. Associate Professor of Therapeutics in the College of Physicians and Surgeons, Chicago; Professor of Medicine and Therapeutics, Dearborn Medical College, Chicago. *Fifth Edition, Thoroughly Revised and Rewritten and Adapted to the Eighth Edition (1905) of the U. S. Pharmacopoeia.* By SMITH ELY JELIFFE, M. D., Ph. D., Professor of Pharmacognosy and Instructor in Materia Medica and Therapeutics in Columbia University (College of Physicians and Surgeons), New York. Philadelphia and London: W. B. SAUNDERS COMPANY.

The several books above mentioned are all of them new editions of standard works and all of these new editions have been brought into being by reason of the eighth decennial revision of the United States Pharmacopoeia, they can all very properly be reviewed together.

"Essentials of Materia Medica and Therapeutics" by Dr. Morris is neither better nor worse than previous editions and what information

it contains is both correct and conforms to the new pharmacopœia. We can say of this edition what we said of the previous (the 6th) one, "It is however like all books of its class, of no use to the student who studies for the sake of knowledge and not merely for a license to practice."

Dr. Thornton's "Dose-Book" occupies a distinct place of its own in that it gives in a concise and exact form a really remarkable amount of information, information of a character which would make it of value to the practitioner as well as the student. There are tables which show the change in strength of the more important preparations of the new pharmacopœia, the equivalents of the apothecaries' weights and measures in the metric system, and the solubilities of drugs as well as several others. The instructions in prescription writing are unusually good.

"Materia Medica and Pharmacy," and "Pharmacy and Therapeutics," both by Wilcox are really two volumes of the same book. The first mentioned gives a resumé of various pharmaceutical processes, kinds of preparations and dosage together with a description in detail of remedies. The second volume is largely given over to the application of therapeutic agents. Both works conform with great exactness to the new pharmacopœia, both are written with clearness and in the second, much new matter has been added. These two books will both retain the popularity which was won by White and Wilcox' "Materia Medica and Therapeutics."

By far the most valuable work published to-day for the medical student is "Modern Materia Medica and Therapeutics" by Dr. Stevens. Each rapidly succeeding edition testifies not only as to the author's learning, and his ability in concise expression, but to the fact that his endeavors are thoroughly appreciated. There is hardly anything which a student should know that is not to be found between the covers of this book and in addition, expressed with such clearness and in such condensed form that in reviewing it, it would be unfair to speak of any one feature as being better than another. The author still clings to his former method of classification of drugs "according to their pharmacological action," instead of taking up each drug separately and by itself, so that when one is studying a drug like *nux vomica*, for instance, he finds it considered under four different heads, and as to location in the book, in places widely separated from each other.

When all is said and done, when the smoke of battle is over and the undergraduate student gives place to the practicing student and he wants a really admirable work on Materia Medica and its kindred branches, he will make no mistake if he selects Dr. Butler's "Text-Book of Materia Medica, Therapeutics and Pharmacology." This book is much too large for the medical student, but for the practitioner, no better book is published. Especially to be commended is the great length with which the author treats the physiological action of each drug and the manner in which he then applies the information thus given to the drug's therapeutic action.

There is one serious criticism to be made however, one which makes it impossible to recommend the book for the undergraduate's use, that

is its many mistakes as to the names of preparations, omission of official preparations and mistakes in dosage.

For example, the dose, (U. S. P.) of Liquor Arseni et Hydrargyri Iodidi is given as 1.00 Cc instead of 0.10 C. c, the dose of Sodii Aresnas as 5-10 grain instead of 1-10 grain; among the list of preparations of mercury, no mention is made of the oleate, and Ferri Hydroxidum cum Magnesia is given instead of Ferri Hydroxidum cum Oxida; but worse than all, the reader is told (as he is indeed in many other materia medicas) that Liquor Sodii Arsenatis is Pearson's Solution while every one who pretends to accuracy in this branch of medicine knows that the former contains one per cent. of the salt and the latter is not official in the U. S. P., but is the Liquor arsenicale de Pearson of the French Codex and is but one-tenth per cent. in strength.

SPENCER L. DAWES.

A Compend of Medical Chemistry, Inorganic and Organic, including Urine Analysis. By HENRY LEFFMANN, M. D., Professor of Chemistry in the Woman's Medical College of Pennsylvania. *Fifth Edition, Revised.* P. BLAKISTON'S SON & COMPANY, 1905. Philadelphia.

This quiz compend appears in its new edition somewhat revised but upon the whole in substantially the same form as in the previous issue.

The author still adheres to the somewhat empirical and unreal classification of the subject into the inorganic and organic divisions.

There can be no doubt that there is collected and presented in a clear and concise manner within the small space of 200 pages a great amount of chemical material which will be of considerable value to the medical student who wishes to "cram up" for an examination.

In considering the importance of the various topics discussed, as judged from the space devoted to them, one cannot fail but be impressed with the view that for the student of medicine the inorganic branch has received undue attention over the other divisions of the subject. One-half of the book is taken up with this, while the chemistry of the carbon compounds with their immediate and important connection with physiological chemistry and hence directly to medical science is relegated to the other half.

It is a pity that the subject of blood finds no place in the book. The chemistry of the circulating medium, the methods for the determination of the hemoglobin per cent., the specific gravity, the coagulation time or the counting of the corpuscles is certainly as much if not more the subject of clinical interest, as the consideration of the fat or total proteid content of milk.

The important topic of physical chemistry as applied in numerous ways (cryoscopy, osmotic pressure, ionic action, etc.,) to the various processes of the animal body has remained untouched.

Upon the whole it must be said that the book is lacking in that part of the subject which, at present, is exciting the most attention in the medical schools and sciences, namely, chemistry applied to the living organism—call it biological, physiological, medical or what one will.

H. C. J.

American Edition of Nothnagel's Practice. Malaria, Influenza, and Dengue. By DR. J. MANNABERG, of Vienna, and DR. O. LEICHTENSTERN, of Cologne. Entire volume edited, with additions, by RONALD ROSS, F. R. C. S., F. R. S., Professor of Tropical Medicine, University of Liverpool; J. W. W. STEPHENS, M. D., D. P. H., Walter Myers Lecturer in Tropical Medicine, University of Liverpool; and ALBERT S. GRUNBAUM, F. R. C. P., Professor of Experimental Medicine, University of Liverpool. Octavo volume of 769 pages, fully illustrated, including eight full-page plates. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, \$5.00 net; Half Morocco, \$6.00 net.

This excellent volume from Nothnagel's series, is mostly taken up by Mannaberg's monograph upon malaria. This is so well known, at least among students of tropical medicine, that extended comment upon it is unnecessary. Almost the only important changes made in the original articles are those necessitated by the demonstration of the rôle of the mosquito in the transmission of malaria, and the consequent alterations in the theories previously held in regard to this matter and to the proper prophylaxis against infection. A few changes and additions of minor importance, but all tending to a better presentation of the subject, have been made elsewhere.

The most important addition is a comprehensive section by Dr. Stephens upon "Malaria in its Relation to the Mosquito." He discusses in a detailed manner the anatomy, life history, distribution and classification of mosquitoes, especially the subfamily Anophelina which is the only one which takes part in the dissemination of this disease. The mosquito-malaria cycle is discussed in detail, and also the habits of Anophelinae and their relation to malarial endemicity. For a thorough exposition of the so-called "Mosquito Theory" (of malaria) we would refer anyone to this section of the volume.

The question of pernicious malarial fever is considered at length, but we would suggest that it would be better were less stress laid upon the different types of pernicious fever. They are considered almost as separate diseases, though the common etiology, rather than as one disease in which different single symptoms or groups of symptoms are predominant. Would not the general arrangement be better were the pathology of malaria considered before, rather than after, the sections devoted to symptomatology?

The section upon diagnosis contains some remarks which we cannot do better than repeat here in toto:

"From these few illustrations (etc., etc.), it is evident how little regard is bestowed on the rule that a fever which resists quinine for a long time is not malaria. The only absolute diagnostic characteristic of malaria is the occurrence of malarial parasites in the blood. The results of expert investigations teach that the parasites may be found in almost every case. The demonstration of the parasite is therefore not only of theoretical interest but of considerable practical value. It possesses at

least as much significance in malarial as Koch's bacillus in tuberculosis. The examination of the blood has accordingly become indispensable and it is to be earnestly desired that the method obtain the widest prevalence, not only among physicians practicing in malarial regions, but elsewhere. * * * * * It is a well known fact that the physicians practicing in regions free from malaria are helpless in regard to intermittent fevers, the causes of which are not evident, and that they too willingly jump at the diagnosis of malaria when a blood examination would solve the question."

The discussion upon malaria is followed by a long list of references (twenty-three pages) which contains all the important work done upon the subject.

The latter part of this volume contains Leichtenstern's monographs upon Influenza and Dengue. Of this the greater portion is occupied by the work upon influenza. Though originally published in 1898, but little has been added to our knowledge of the subject since then and his description of the disease is so complete and so accurate that it will long remain a classic. The text is followed by a very extensive collection of references to the literature on the general and special aspects of influenza.

It seems like the irony of fate that the author should have succumbed to an attack of pneumonia, the result of a previous attack of influenza, shortly after the publication of his treatise.

The section upon Dengue is brief, but complete. It was written, however, before the rôle of the mosquito in the transmission of tropical diseases was discovered, and, as a consequence, some of the remarks upon etiology are not quite in accord with present ideas.

C. K. W., JR.

American Edition of Nothnagel's Practice. Diseases of the Kidney, Diseases of the Spleen, and Hemorrhagic Diseases. By Drs. H. SENATOR and M. LITTEN, of Berlin. Edited with additions, by JAMES B. HERRICK, M. D., Professor of Medicine in Rush Medical College, Chicago. Octavo of 816 pages, illustrated. Philadelphia and London: W. B. SAUNDERS & COMPANY, 1905. Cloth, \$5.00 net; Half Morocco, \$6.00 net.

When, among the many books of only passing value which constantly issue from the press, the reviewer finds one of such decided merit as this volume in Nothnagel's series, a distinct sense of pleasure and satisfaction is at once felt. Though all parts of the work are not equally satisfactory and up to date, as a whole it is very valuable and we are sure will be considered as an authority in English upon the subjects of which it deals as it already is in German.

Senator's monograph upon the diseases of the kidney comprises by far the largest part of the volume. This is divided into a General and a Special section. The first, after a short historical review of the develop-

ment of our knowledge of renal affections, considers in detail various abnormal urinary conditions, such as albuminuria, chyluria, haematuria, phosphaturia, etc., of which naturally the consideration of albuminuria takes by far the largest amount of space. This discussion of urinary states is followed by that upon Dropsy, Uraemia and the Vascular Changes which take place in disease of the kidney.

Following this consideration of general subjects so closely allied to, and in fact part of, abnormal renal conditions, there is in the special section a full discussion of pathological kidney conditions *per se*. These are considered in the following order: Malformations, Displacements, Neuralgia (Renal Colic) Circulatory disturbances, Hypertrophy and Atrophy, Non-suppurative inflammations (Bright's disease), Suppurative inflammations, Amyloid and Fatty degenerations, Inflammatory affections involving other renal structures than the parenchyma (pyelitis, pyelonephritis, hydronephrosis, etc.), Cystic kidneys, Neoplasms, Renal Concretions, Animal and Vegetable parasites, Peri-nephritis and Para-nephritis, Anomalies of renal vessels.

The discussion of the various topics is full, at all times fair, and full references to the literature are given, both as footnotes and collectively at the beginning of each section. The Editor has found little to add or criticize but has inserted some paragraphs bringing the subject matter fully up to date and giving points of special value to the general practitioner, such as in diagnosis and treatment.

Some plates have been added which well illustrate points in the pathology of nephritis, and two from Rieder's well known atlas illustrate types of renal casts.

The part of the volume dealing with the diseases of the spleen is from the pen of Litten. This section is not as good as that upon the kidney. It is not as up to date and consequently many of the ideas here expressed are not in exact accord with the opinions now held in regard to the same subjects; particularly is this the case in connection with the discussion of physiology of the spleen, leukaemia, malaria, and the changes in the bone marrow, lymphatic apparatus and blood which take place after splenectomy. One statement in particular we must take exception to: that "the spleen and bone marrow convert leucocytes (that are probably reformed in the lymph glands) into red blood corpuscles."

In this part of the book many whole sections have been added by the Editor, notably those upon Splenic Anaemia, Chronic Cyanosis with Polycythaemia and Enlarged Spleen, and Chronic Icterus with Splenomegaly. Many additions have been made by the Editor in the sections upon Leukaemia and Malaria.

The last portion of the volume is also from the pen of Litten, and is given over to a discussion of the so-called haemorrhagic diseases. The author considers the haemorrhagic diathesis under three headings: Scurvy, Haemophilia, and Morbus Maculosus Werlhofii (Purpura haemorrhagica). To these the editor has added a section upon Infantile Scurvy. The author calls attention to the fact that our real knowledge of these conditions does not permit so sharp a distinction; the differences are in part arbitrary, and not based on strict etiological or pathologico-anatomi-

cal data. Though he has not brought much order out of the previous chaos yet his work has perhaps cleared up some points and certainly deserves careful study.

C. K. W. JR.

A Text-Book of Medical Chemistry and Toxicology. By JAMES W. HOLLAND, M. D., Professor of Medical Chemistry and Toxicology, and Dean, Jefferson Medical College, Philadelphia. Octavo volume of 600 pages, fully illustrated, including 8 plates in colors. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, \$3.00 net.

The press work of this book is excellent both as regards the typography and the many rather well executed colored plates which are diffusely spread through the volume.

That part devoted to the inorganic division is especially complete. Metrology, heat, light, magnetism and electricity are discussed with detail sufficient to supply the physical knowledge necessary to the further comprehension of the subject. Gibb's phase rule receives attention to the extent of two pages.

In the consideration of the various elements, their occurrence, preparation and properties—these in some cases being taken up from the physical, chemical and medical standpoint—are followed by the incompatibilities of the compounds, the pharmacopoeial preparations with their doses and finally by a statement from the toxicological standpoint. This latter includes the symptoms, fatal dose, fatal period, treatment and post-mortem appearance of the tissues and organs. To the mind of the reviewer it is questionable whether the introduction of pharmacopoeial preparations, doses and toxicological discussions are not absolutely out of place in a chemistry, even one expected to fall into the hands of medical students. The modern schools provide special chairs in materia medica, therapeutics, pharmacology and even in some cases pharmacy. In a thorough presentation of these subjects, all the necessary detail which was in the past given under the name of toxicology, finds consideration. Toxicology as a special subject is a relic of the times when all that was known about chemistry could be narrated in a small volume. It is evident that the pharmacologist will not recommend to his students a book on chemistry from which to obtain physiological or pathological action or doses, nor will the therapist be satisfied with the discussion of the symptoms or treatment as given in a chemistry. The special subjects are too large to allow of such concentration. The physical side of the subject in connection with the various elements is admirably presented. The importance of the ions in reactions, precipitation, electrolytic conductivity, physiological action and as indicators receives careful and well directed attention. The "organic" compounds are defined as "those whose carbon is combustible." This then excludes the carbon compounds such as carbonates and oxalates. These together with the cyanides are placed under the inorganic subdivision; but just why the deviations of hypothetical carbonic acid, the cyanides and oxalates are not taken up

under carbon, as one would expect, is not clear to the writer. The value of the organic division becomes greatly enhanced by the many structural formulae found in the text. This is always of inestimable value both in teaching and in studying the subject. It is rather unfortunate, however, that substances of such intimate importance to medicine as the lecithins, cystein and asparatic acid receive such slight notice and the names of succinic and glutamic acids, allantoin, pyrrolidin and serin do not appear in the index and hence it is to be presumed are wanting in the text. The chapter on ptomaines and toxins is concise and well-chosen. The book concludes with a discussion of physiological and clinical chemistry through which some few detailed experiments are interspersed. There appear short resumes of salivary, gastric and pancreatic digestion with colored plates to indicate tests which depend upon color-changes. Töpfer's method is given in detail. The bile, intestinal juice, and blood receives limited attention, but milk with methods of analysis, preservation, etc., is complete from the clinical or commercial standpoint. The more important physiological and pathological constituents of the urine are covered and the usual clinical methods for their determination given. The method for chlorides is bad and gives inaccurate results in pathological conditions. It is doubtful whether Ruhemann's volumetric uric acid determination has found sufficient use or received enough verification to warrant its recommendation for general employment unless only approximate values are required.

No gross errors have come to notice and it may be said that the book can well be made to serve as a text-book for general chemistry but must be largely supplemented in the physiological chemical branches.

H. C. J.

A Treatise on Diseases of the Skin. For the use of advanced Students and Practitioners. By HENRY W. STELWAGON, M. D., Ph. D., Professor of Dermatology, Jefferson Medical College, Philadelphia; and Clinical Professor of Dermatology, Woman's Medical College, Philadelphia. *Fourth Edition, Revised.* Handsome octavo of 1135 pages, with 258 text-illustrations, and 32 full-page lithographic and half-tone plates. Philadelphia and London: W. B. SAUNDERS & COMPANY, 1905. Cloth, \$6.00 net; Sheep or Half Morocco, \$7.00 net.

This book, already in its fourth edition, is an exceedingly attractive and useful work. The present edition contains considerable new matter in the form of a brief but clear description of the therapeutic uses of Electrolysis, the Röntgen and Einsen rays and the high frequency current. Many new plates have been added, most of them from the author's own cases.

The bibliographical references are placed as footnotes on the pages and while not intended to be complete, they contain the most important communications relating to each disease. The book is to be recommended particularly to physicians and to students who have access to large clinics. In small clinics the student we believe, would profit more from a small atlas.

H. W. C.

NEUROLOGY

Edited by Henry Hun, M. D.

Anatomical Findings in Two cases of Korsakoff's Symptom-Complex
F. ROBERTSON SIMS. *The Journal of Nervous and Mental Diseases.*

The author's first case was one of acute alcoholic multiple neuritis in a woman of forty-eight years, accompanied by delirium, hallucinosis and romancing. Later came convulsions with twitchings of various muscular groups which was followed by spasticity of one extremity and flaccidity of the extremities of the opposite side. There was some paralysis of the facial muscles. Death occurred after five weeks and was preceded by a rapid rise in pulse and temperature. The autopsy showed slight arteriosclerosis, hypostatic pneumonia, fatty infiltration of the liver, acute degeneration of many of the peripheral nerves, axonal reaction in cells of the anterior horns, Clark's columns and many cranial nerve nuclei. Degenerations in the posterior column, direct cerebellar tracts and the root bundles were also present. There was a moderate "acute alteration" of the cortical cells.

The second case was one of acute alcoholic confusion following chronic neuritis. There was marked amnesia for recent events, irritability, increased emotional reaction, imperfect orientation and mild delirium. Later he developed difficulty in speaking and swallowing. He died from vagus paralysis and failure of respiration.

The autopsy showed general arteriosclerosis involving the aorta and coronaries. There was an acute bronchitis, fatty degeneration of the heart, liver and kidneys, and acute degeneration in the peripheral nerves of the lower extremities and also in the vagi. Axonal reaction occurred in the cells of the anterior column, in Clarke's column, many cranial nuclei and the Betz cells of the cortex.

There were vascular changes in the cord and cortex with numerous microscopical hemorrhages throughout the cerebrum, also acute degeneration of the cortical radiations and of both motor and sensory systems of the cord, as well as degenerations of the cord not easily reconcilable with the systemic changes.

A Case of Myaesthesia Gravis with Autopsy.

CHARLES W. BURR. *The Journal of Mental and Nervous Disease, March, 1905, page 172.*

The author's case is as follows: A robust man, thirty years old, whose family and previous personal history was unimportant. A physician was called, November 14, 1900. He had had a headache for two months and had noticed that his eyelids began to droop, especially at night, and that the muscles of his jaw, shoulders and arms were becoming weak. He also had blurring of vision, and vertigo.

The examination: The gait was normal, any movement of arms or hands caused great tire. Sensation normal, no disturbance of the reflexes.

Diplopia was present, speech slow, voice weak, talking caused great tire. Swallowing difficult. He grew steadily worse and the legs became involved. Then double ptosis when at rest. There was no ataxia. Reflexes were never exaggerated. There was no wasting of muscles in the face, tongue or extremities. Faradic response was slower than normal. Had complete control of bladder and rectum. Swallowing became more and more difficult. Difficulty in breathing began four days before death. He died November 27, 1900. Eye symptoms: contraction of visual fields and partial reversal of the red and blue fields.

Autopsy: The thymus gland was prominent. It weighed twenty-two grains and contained an encapsulated chronic abscess. The microscopical examination of the cranial nerves and spinal cord was negative. The only changes found in the brain were small hemorrhagic areas in the region of the aqueduct of Sylvius. These were recent, without other evidence of inflammatory reaction. The muscles showed a lymphoid infiltration.

Acute Dilatation of the Heart. (Zur Frage der acuten Herzdilatation.)

KRESS. *Neurologisches Centralblatt, Jahr. 24, Nr. 19, 1905.*

Two cases were observed in young men between twenty and thirty years of age. Both were well nourished and temperate, and both had an hereditary neurasthenic taint.

The first patient was a student of fair ability, who lacked energy and concentration. He was taken from his studies after paroxysmal attacks of praecordial anguish, partly unpleasant and partly painful, for which he consulted a physician who diagnosed dilatation of the heart, whereas, later, another physician, who saw him in an interval, declared the heart to be unaffected. Kress placed the patient under observation and describes an attack as follows: spasmodic crying and sobbing, undefined general feeling of anxiety, stabbing pains in praecordia, restlessness, pronounced mental excitability and irritability; pulse 120 to 130, irregular; and lateral enlargement of area of heart dullness, of about three centimetres to the left and two and a half to the right. After half an hour's duration the attack subsided, and an hour later the area of cardiac dullness was reduced to its normal limit. The patient recovered under treatment for neurasthenia.

The second patient was a cattle drover, who was congenitally neurasthenic. His attacks lasted from several hours to two days, and consisted of severe general unrest and irritability, pains in the praecordia, vague apprehension, and disturbance of sleep with unpleasant dreams and tormenting ideas. The area of cardiac dullness extended three centimetres to the right and one and a half centimetres to the left of the normal limit. On the evening of the day when this was determined a second examination revealed normal conditions. Over one hundred such attacks were observed.

There were thus two patients, degenerate neurasthenics, who exhibited in sharply defined attacks, a correlation between a transitory change in the heart boundaries and a paroxysmal symptom-complex of nervous

origin. Kress believes that this may be explained as an emotional state in which the innervation of the heart participates, and that it is analogous with the vaso-motor disturbances common to emotional variations.

Contributions to the Pathogenesis of Chorea and Acute Infectious Processes in the Central Nervous System. (Beiträge zur Pathogenese der Chorea und der akuten infektiösen Prozesse des Zentralnervensystems.)

CRAMER AND TÖBBEN. *Monatsschrift für Psychiatrie und Neurologie, Band XVIII, Heft 6, December, 1905.*

Two cases are reported by the authors, in the course of which there were some articular pains and swellings, and the choreic movements were quite characteristic. The first patient recovered. The symptoms of the second case were much more active, and the case terminated fatally, ten days after admission to the hospital. The author obtained cultures from the blood during life. In the first staphylococci were isolated without difficulty. In the second case the first attempt resulted negatively. A few days later other cultures were taken, which revealed after a long period of incubation a film which did not liquefy gelatin, made a ribbon-like strip upon agar agar, upon blood serum left a similar soft film, and upon gelatin plate left small transparent colonies with a fine nucleus and a slightly swollen border. Preparations made from these cultures showed cocci reacting to Gram, and assuming the form of chains which consisted of from six to ten points, and were raised either in a confused mass or into neatly arranged bundles.

At the autopsy in the second patient certain definite characteristic changes were found, such as distension of the blood vessels, perivascular hemorrhages and increased proliferation of the interstitial nuclei. Streptococci were cultivated from the blood, small sections of the brain, cerebrospinal and peritoneal fluids and from the diseased cardiac valve. These cultures were injected subcutaneously in guinea pigs, which died after fourteen days of slight fever and perceptible emaciation. One guinea pig revealed post mortem embolic abscesses in the left kidney, necrosis of the cardiac muscle, and in another there was found a fresh erosion of the aortic arch. In the other animals the post mortem results were negative.

The authors recall the literature upon this subject, but find that all previous investigations into the infectious character of chorea have been dependent upon post mortem findings only. It has been ascertained that chorea is associated not only with articular rheumatism, but also with other infectious diseases, as measles, scarlet fever, diphtheria, influenza, angina and the puerperal period. It is also believed that polyarthritis is not due to the specific poison, but is only a part of pyemia which may be due to different microbes. It is consequently to be assumed that a specific organism as the cause of chorea is not to be sought, but that there may be different organisms which find their way into the body through different channels.

The authors further draw attention to the prominence of mental symptoms in chorea, and believe that there is an analogy between acute delirium and Landry's paralysis, poliomyelitis, acute delirium and chorea. The susceptibility of the motor structures to these infectious processes has already been pointed out by several authors.

A Case of Motor Aphasia without Agraphia.

BYRON BRAMWELL. *The Lancet*, October 7, 1905.

The great point of interest in the following case is the fact that there was complete motor aphasia without agraphia; any defect in writing which was present in the early stages of the case was clearly a defect of manipulation, a defect properly so called. The aphasia was purely motor. For a fortnight after the occurrence of the lesion the patient did not utter a spoken word, although she tried to do so. It was only after she was taught to repeat vocal sounds, that she began to speak at all, and it was not for some days after that she was able to repeat the most elementary speech sounds. On February 3d, when she could only repeat some of the letters of the alphabet, she wrote a well-written letter. Bramwell states that he knows of no case in which such complete motor vocal aphasia was associated with such perfect writing ability. Some authorities believe that the nervous impulses concerned in the production of written speech pass through the motor vocal speech center (Broca's) in order to reach the graphic or writing center. Bramwell on the contrary has urged for the past few years against this view and has taught that under normal conditions the nervous impulses for written speech pass from the visual speech center to the graphic speech center directly and not through Broca's center. If in this case the motor aphasia was due to a lesion of the motor speech center, this view would of course be absolutely proved. But without an autopsy it is impossible to state whether the aphasia was cortical or sub-cortical.

The patient, a married woman aged twenty-seven years, was suddenly seized with head symptoms during an attack of influenza. She suddenly felt giddy, her hands numb, and fell backward striking the back of her head. On rising from the floor she fell forward and bruised her forehead she then managed to crawl into bed. Her husband returning from work found her in what he thought to be an unconscious condition, unable to speak and with rigidity of the limbs. The right arm was paralyzed. Bramwell's examination disclosed a right sided facial paralysis. The hearing was good and she seemed to understand what was said to her. She could recognize time and could write the first two letters of her name. On admission to the hospital four days afterwards it was found that all movements in the extremities were performed in a normal manner. There was no optic paralysis. The optic discs were normal. The patellar reflexes were lively and there was slight ankle clonus on the right side. The plantar reflexes showed an extensor response on the right side. There was some anaesthesia and analgesia on the right side of the face. Vision was normal.

There was no hemianopsia. Hearing was impaired in the right ear. Taste was impaired on the right side of the tongue. Smell was abolished in the right nostril.

Speech function: She was right handed. She understood everything that was said to her. She was totally unable to speak. She could read quite well and there was no hemianopsia. She had difficulty in holding the pen, but could write quite well apart from this manipulatory defect. She wrote her name and a short sentence from dictation. She correctly indicated on her finger the number of syllables in the following words, "papa," "mamma," "Constantinople." She was quick at understanding signs. Her intellectual faculties appeared normal. The sole defect was a complete motor aphasia without agraphia. She was unable to repeat vocal speech; but when the words "papa" and "mamma" were slowly articulated and her attention was directed to the lips of the speaker she managed to copy the movement and to whisper the words in an imperfect way. During the presence of this complete motor aphasia the patient wrote to Dr. Bramwell several well formed and constructed letters. She ultimately made an almost complete recovery. When discharged she could repeat all the letters of the alphabet and numbers and was able to name all common objects shown her. There was still slight paralysis of the right side of the face.

PAEDIATRICS

Edited by Henry L. K. Shaw, M. D.

Later Results with the Moser Polyvalent Scarlet Fever Serum. (Meine neuere Erfahrungen über das Moser'sche polyvalente Scharlach-Serum.)

БОКАУ. *Jahrbuch für Kinderheilkunde, September, 1905.*

Two years ago the author published the results he obtained by the use of the Moser serum in ten severe cases of scarlet fever. At that time he expressed himself as convinced that this serum had a decided beneficial effect in severe cases which was not apparent after the use of other anti-streptococcic sera he had used as control. In the present article he critically reviews the literature on this subject. Kolly and some colleagues in Moscow have succeeded in producing some polyvalent serum and have reported very satisfactory results in thirty-nine severe cases. Mendelsohn, an assistant of Baginsky, has recently written an article strongly advocating the use of this serum as a result of his clinical experience with four cases. Heubner and Ganghofer on the other hand are sceptical over the benefits claimed to have been attained by the use of the Moser serum.

Bokay gives the full clinical history and temperature charts from seven severe cases in which the serum was employed. These were chosen for injection on account of the severity of the disease, especially on the part of the nervous system. All the cases made a complete recovery.

In a summary of these cases the author first emphasizes the marked

improvement in the general condition observed in twenty-four hours after the injection. The eruption faded more quickly than in the uninjected cases. The average fall of temperature within twenty-four hours after the injection was two and one-tenth degrees centigrade. There was a corresponding lowering of the pulse rate and improvement in the pulse wave. The tonsillar involvement was not so great and soon disappeared. In two cases there was a transient albuminuria, but no severe kidney involvement in any case. A secondary serum rash appeared in all the cases, but it was not severe.

The author concludes that his latter results make him even more enthusiastic over the specific antitoxic action of this serum and corroborates the claims of Moser and Escherich as to the distinct value of the polyvalent serum in severe cases of scarlet fever.

Serumtherapy in Scarlet Fever. (Zür Serumtherapie des Scharlachs.)

ZUPPINGER. *Wiener klinische Wochenschrift*, No. 44, 1905.

The author has treated the most severe cases of scarlet fever in the Rudolf Children's Hospital in Vienna with the Moser serum. Twenty-eight cases in all were so treated, and of these five terminated fatally. No beneficial effect was noted after the use of Marmorek's serum in several control cases. The earlier the administration of the serum the better is the prognosis. Of five cases injected the first day of the disease all recovered; on the second day seven were injected and all recovered; on the third day eight were injected and one died; on the fourth day three were injected and one died; on the fifth day one was injected and recovered; on the sixth day four were injected and three died. From the rapid disappearance of the severe toxic symptoms the author agrees with Escherich and Moser that the serum contains a specific antitoxin.

The following case illustrates the effect of the serum. On June 22, 1905, a five-year-old girl was admitted with a very severe attack of scarlet fever. The face and lips were cyanotic and the eruption a dark red color. There was a severe conjunctivitis. Temperature, 41° C., feeble pulse, rapid and irregular respiration. The liver, spleen, and inguinal glands were enlarged. The child was unconscious and very restless. There were involuntary twitchings, vomiting, and frequent, offensive stools. This was the second day of the disease and the child was given 300 cubic centimeters of the Moser serum. Within twenty-four hours the temperature had fallen 3.4° C. without collapse and the child was conscious and sitting up in bed playing. This child made a complete recovery, but for two weeks the pulse was weak and irregular. Without the serum the author believes it would have been impossible to save this child. The same improvement was noted in the other cases. A secondary serum exanthem occurred in fifty-three per cent. of the cases, but it was not intense.

The author believes that the Moser serum given in large doses early is the most potent specific against scarlet fever and that it alone can save life in the most severe cases. He pleads for its wider use.

ALBANY MEDICAL ANNALS

Original Communications

THE ADAMS-STOKES DISEASE

WITH THE REPORT OF THREE CASES

An Address delivered at the Centennial Anniversary of the Washington County Medical Society, held at Sandy Hill, N. Y., Tuesday, October 3rd, 1905.

By HERMON C. GORDINIER, M. D.,

Troy, N. Y.

The Adams-Stokes disease, also called by Gibson recurrent bradycardia, is a symptom-complex usually associated with arterio-sclerosis and myocardial changes, characterized by true or false bradycardia of a permanent or temporary character, and allorhythmia. Vertigo and syncopal attacks with or without epileptiform convulsions or pseudo-apoplectiform seizures, unaccompanied by paralysis, together with dyspnoea, Cheyne-Stokes breathing and vaso-motor instability, are among the more common nervous manifestations of the disease.

This remarkable condition was first described by Robert Adams of Dublin, in 1827. His patient was a man aged sixty-eight years, who had in seven years at least, twenty apoplectic attacks, each of which was preceded for a few days by hebetude and loss of memory. The pulse was permanently slow, and at the time of the attacks became slower. No paralysis ever occurred. Death followed an attack. At the post mortem, the heart was found to be fatty.* Stokes, in 1846, described this condition more fully, and laid particular stress on the

* According to Professor Osler, Joseph Erlanger, of the Johns Hopkins Physiological Laboratory, divides heart block into partial and complete:

A. *Partial*: (1) Occasional ventricular silence; (2) regularly recurring ventricular silence, either one ventricular beat missed in 7, 6, 5, 4, etc., auricular beats, or a 2, 1, 3, 1, 4, 1, rhythm, or either of these alternating.

B. *Complete heart block*. Auricular and ventricular rhythms perfect but independent.

C. *Paroxysmal bradycardia* (Stokes-Adams disease), affecting ventricular rate alone.

syncopal attacks, their repetition, the absence of paralysis and the good effect of a stimulating rather than a depleting plan of treatment. Stokes suggested for these attacks the name of false or pseudo-apoplexy. His first case is very interesting. It was a man aged sixty years; he was suddenly seized with a fainting fit which recurred several times each day. For three years before his admission to the hospital he had had about fifty seizures. A fit of indigestion or any sudden exertion would suffice to bring on an attack. He never had convulsions or paralysis. He was absolutely unconscious during the attack for from four to five minutes, his pulse was twenty-eight per minute, and the arteries were in a condition of permanent distention; the temporal arteries ramifying under the scalp just as they are seen in well-injected subjects. The threatenings of the attacks he could recognize, and would often ward off an attack by turning on his hands and knees and keeping the head low.

Huchard, in 1893, directed the profession's attention anew to this interesting group of symptoms and called this condition "The Stokes-Adams Syndrome," in honor of the two distinguished Dublin physicians who first reported cases of it. According to Huchard this symptom group occurs almost exclusively in individuals of an advanced age, and is due to an arterio-sclerosis of the cardio-bulbar type.

Etiology. It is much disputed whether the bradycardia associated with the Adams-Stokes syndrome is due to a veritable heart block, the result of myocardial changes in the auriculo-ventricular bundle of His, or, as suggested by Huchard, to a bulbar arterio-sclerosis, with changes in the vagi centers and a consequent vagus inhibition. The positive centrifugal pulsations of the jugular veins exceeding in frequency the apex beat observed by His, in his remarkable case of this disease, supports the theory of heart block, as the centrifugal pulsations of the jugulars appear to him to be due to an allorhythmia or auriculo-ventricular asynchronism. His patient had a pulse ranging between eighteen and thirty-two, exactly synchronous with the apex beat, the jugular pulse rate ranging between 96 to 104 and being isochronous with a low, humming murmur heard to the right and left of the sternum in the second and third intercostal spaces. One of Stokes' cases presented the same phenomenon though less marked.

The fainting attacks together with the epileptiform and apöplectiform seizures are doubtless induced by sudden transient changes in the cerebral circulation, doubtless anaemic in character and due to a temporary or periodic slowing of the blood current and consequent diminished circulation. The attacks are usually preceded for a brief period of time (a few seconds) by complete cessation of the pulse and heart beats. On the heart resuming its beat, the face flushes and consciousness returns with a wild stare, a distinct grunt, foaming at the mouth, and considerable convulsive movements of the muscles of the mouth and face. Balfour states that the initial seizures seems to be essentially syncopal in character while the succeeding phenomena are evidently due to the unusually large blood wave with which the tissues are suddenly flushed on what may be termed the return of life.

Grasset, Ranzier and Savill are of the opinion that the vertigo, epileptiform and syncopal attacks are due to an arteriosclerosis of the medulla, while Jaquet, on the other hand, believes that the phenomena of Adams-Stokes disease depends upon a cramp-like constriction of the vessels of the brain.

Hoffman, whose patient was a woman of twenty-three years of age, without clinical signs of cardiac or other organic disease, but with a severe anaemia, ascribes the symptoms to an interference with the ability of the cardiac muscle fibres to respond to the stimuli or to conduct the impulses to contraction from the auricle to the ventricle. In other words, there is a block in the fibres which carry the impulse to contraction from the auricles to the ventricles. A. Belski, from a careful study of the phenomena of three cases of this disease, and from a study of all the cases in the literature, comes to the same conclusion.

To Dr. Gaskell belongs the credit (1881) of first showing (in the tortoise) that the automatic rhythm of the heart originates in the muscular tissue itself and he explains the fact that the contractions originate in the sinus by the peculiar structure of the cardiac muscle in this part of the heart; while he states that the sequence of the contraction of the ventricles to the auricles is not due to separate stimuli of nerve fibres from the sinus to the ventricle, not, in short, to any nervous mechanism, but to the fact that the wave of contraction passes directly from the muscle fibres of the auricle to the muscle fibres of the ventricle, through the muscular fibres of the aauriculo-ventriculr

groove. The pause, or more correctly, the alteration of rate in the progress of the contraction wave which takes place between the contraction of the auricle and ventricle, is, he says, due to an alteration in the conducting power, which naturally exists at the auriculo-ventricular ring (natural heart block). He has also found that by stimulating the aortic bulb contractions occurred which ran from ventricle to auricle; that is in reverse direction to normal. This seems strongly suggestive that the impulse originates in the muscle fibres independently of any nervous mechanism.

Dr. Erlanger, of the Johns Hopkins school, has succeeded for the first time in this country, in producing a veritable heart block in mammals. His experimental work started with the study of a case of Adams-Stokes disease in the Johns Hopkins Hospital. It was found by careful pulse tracings that the auricle and ventricle in this patient beat with different rhythms. The administration of atropine had the usual effect on the auricular beat, but the ventricular beat did not change. The accelerators were, however, shown to influence both auricle and ventricle. He accomplished heart block in dogs by inserting a specially devised needle hook-clamp between the auricle and ventricle and compressing with it, the auriculo-ventricular bundle of His.*

The study of the case and further experimental work on dogs showed conclusively that every case of Adams-Stokes disease (the rhythm in the neck vessels differing from the rhythm at the heart, being one of the features described by Stokes) was in reality an instance of heart block. And a study of all the cases in literature which have been well observed and by adequate methods confirms this idea. All the symptoms Erlanger states can be explained by a lesion of the auriculo-ventricular bundle of His, and there seems to be neither need nor warrant for calling in the cardiac nerve centers to explain the condition.†

*William His, Jr., first described this bundle in the mammalian heart in the form of a slight fasciculus of muscle fibres extending from the right side of the interauricular septum to the interventricular septum. It is about eighteen millimeters long, two and five-tenths millimeters broad, one and five-tenths millimeters thick. His found that division of this bundle in the septum, in rabbits, caused a complete heart block. Krehl and Romberg have destroyed all connection between the auricles and ventricles save that by the auriculo-ventricular bundle and as a result of these experiments they conclude that the impulse which normally causes the ventricles to contract passes through the auriculo-ventricular bundle of His.

†Dr. Erlanger has collected thirteen cases of Stokes-Adams disease from the literature in all of which the condition of heart block was verified by careful tracings.

Considerable evidence verified by careful postmortem findings exists to show that the bradycardia associated with this disease may be due to vagus inhibition the result of disease of the vagi center or to changes in the vagi nerves of a parenchymous nature. Luce, in 1902, found at the autopsy of his case in addition to a primary sarcoma of the heart, acute parenchymatous neuritis of the vagi nerves, with in many places total destruction of the axones. In this connection I have introduced an abstract of the very interesting case of Holberton, copied from Balfour's work on the senile heart, 1898. His case was doubtless one of Adams-Stokes disease occasioned by traumatism to the cervical spine with consequent changes in the medulla. Retardation of the pulse occurred two years after the injury. His patient's age was sixty-four years. He was thrown on his head while hunting, in 1834. At first he was stiff and sore with great pain in the neck, about the cuneiform process and the condyles of os occipitis. The pain continued about six weeks. At the end of a year he was well, but had difficulty in moving his head. In 1837 he had a fainting fit, with a pulse of but twenty per minute. His usual pulse was thirty, but often after a fit it fell to twenty, fifteen or eight per minute. His syncopal attacks always ended in epileptiform seizures. His last fatal attack occurred in April, 1840. After his death his heart was found to be enlarged, the walls of the left ventricle were rather thin, the valves healthy and the auriculo-ventricular openings dilated. The coronary arteries were not sclerosed. The inflammatory action which had followed the injury to the first and second vertebra, had narrowed the foramen magnum and the upper part of the spinal canal, compressing and increasing the density of the medulla oblongata and upper part of the cord.

Surgeons have long recognized that dislocation or fracture of the cervical vertebrae is often accompanied by a very slow pulse. Gault found the pulse reduced as low as twenty per minute in a case of injury to the seventh cervical vertebra. Charcot states that retardation of the pulse is one of the most interesting and least noticed facts of the symptomatology of cervical spinal lesions. Jonathan Hutchinson states that unless the injury to the spine is in the cervical region, no influence on the heart's action is observed. The probable explanation lies in the relation of the spinal accessory nerves to this region.

They take their origin from a group of cells at the base of the ventral and lateral horns of the cervical cord and passing brainward through the foramen magnum, then course peripherally through the foramen lacerium posterior, the bulbar portion of this nerve joins the vagus and contains the inhibitory fibres which pass on with that nerve to the heart.* Tripier held that the disease was a genuine epilepsy, a view to which few at the present time would subscribe. Syphilis has been ascribed as an etiological factor in a few cases. The case recently experimented upon by Erlanger became quite well on antisyphilitic treatment which was suggested by Professor Osler. Dr. Erlanger suggests that owing to the close relation which the mesial leaflet of the tricuspid valve bears to the auriculo-ventricular bundle of His, that disease of this leaflet may interpose a block to the passage of normal impulses from auricle to ventricle. He advises that the condition of this leaflet should be carefully determined in all cases of Adams-Stokes disease that come to autopsy.

Pathology. The morbid anatomy of this interesting syndrome remains to be written. Few careful autopsies have been made and in only one or two instances has a searching microscopic study been made, particularly of the heart and nervous system. Stokes believed that the symptoms were referable to fatty changes in the heart muscle. At the present time, Quain still associates the bradycardia with fatty heart, though he says a rapid pulse is also indicative of the same pathological changes. In some instances no change in the myocardium has been observed, while in others chronic fibroid myocarditis has been found associated or not with hypertrophic dilation of the heart chambers, particularly the ventricles. In Dr. Edes series, twenty-six cases presented sclerotic and myocardial changes. The coronary arteries are often sclerosed or the seat of calcareous deposit. There is usually well marked arterio-sclerosis; valvular defects are not common though relative insufficiency of the auriculo-ventricular orifices often occurs from dilatation due to myocardial changes. In a case of Sendler, 1902, one coronary artery was incompletely occluded by the pressure of a primary fibroma of the heart. In the case of

*Edinger observed pronounced slowing of the pulse on defecation due to the existence of a varix in the ventral portion of the accessorius nucleus. Subsequently, as the varix grew the retardation of the pulse became greater until the heart ceased to beat altogether when the varix ruptured. *Berliner klinische Wochenschrift*, 1808.

Halbertons, above alluded to, it is said that parenchymatous changes were found in both vagi, and superior cervical gangliae. Lepine's case showed compression of the pons and medulla. The late Dr. Prentiss, who recorded one of the first and most remarkable cases in this country, found at autopsy the heart enlarged, but no changes in the aorta or coronary arteries. Sections of the medulla showed congestion of the vessels, but no other changes. There was extensive general arterio-sclerosis. His patient was a male aged fifty-three years, with extensive arterio-sclerosis, he had had for two years a pulse ranging from eleven to forty. During this time he was subject to fainting spells. Death was sudden, preceded for several days by delirium. In the case of Luce, mention of which was made by the author under etiology, a primary sarcoma of the heart muscle was found associated with changes in both vagi nerves. It is interesting to note that in Jaquets' case a most careful post mortem examination was made, but no lesion was found. It will be interesting in this connection to mention that in a typical case of Dr. Edes, a most careful post mortem by Dr. Councilman disclosed nothing abnormal.

Osler divides this condition into three distinct types.

(1.) Post febrile type following especially typhoid fever, pneumonia, diphtheria, influenza and other infectious diseases. The prognosis of this type seems more hopeful although he states that the first attack may prove fatal.

(2.) The most common, an arterio-sclerotic type, with marked vascular and myocardial changes.

(3.) The neurotic type, due to gross changes in the brain, bulb, or spinal cord.

It is very probable that most if not all cases presenting the Adams-Stokes Syndrome are due to a definite heart block the result of changes of a sclerotic nature partially or completely destroying the auriculo-ventricular bundle of His.

In confirmation of this statement three cases of veritable heart block have been reported very recently; the first by Dr. A. Müller, in which sclerotic changes in the auricles had completely destroyed this bundle; the second, Stengel's, a typical case of Adams-Stokes disease with autopsy, in which a lesion, sclerotic patch, was found on the anterior mitral leaflet which had extended to the endocardium exactly over the bundle of His, where this muscular fasciculus passes from the ventricle to auricle, and

the third (Schmoll's) observation upon a typical case of heart block, the autopsy showing formation in and around of His just below the membranous septum.

Symptomatology. The symptoms of this strange and interesting condition while very definite are but few.

There is a bradycardia which is permanent or transient together with vertigo, faintness, epileptiform or apoplectiform seizures and changes in respiration of the Cheyne-Stokes type. The bradycardia is most often permanent, although it may only occur for a short time including the seizures, and then rapidly or gradually disappear. The pulse rate may range from fifty to twenty or less, a pulse of five having been recorded. The pulse is usually full; with difficulty compressed, and at times intermittent. The tension is most always plus. The arteries are generally sclerosed, the temporals being prominent, and arcus senilis is quite common. The bradycardia while usually true, *i. e.*, accompanied by the same number of heart beats as the pulse rate may be false, *i. e.*, accompanied by a greater number of heart beats than the pulse rate. This false bradycardia is due, as is well known, to hemisystole, numbers of the ventricular contractions being too weak to be recognized at the wrist. Balfour records the case of a lady with false bradycardia, who was suddenly seized while shopping with an epileptiform fit. These seizures would recur on the slightest exertion, and when Balfour saw her she was unable to rise from the recumbent position without bringing on an attack. Her pulse was slow, only 20 per minute, while her heart was beating at the rate of 60, only every third beat was strong enough to reach the periphery.

The heart may be normal, or enlarged, the apex being displaced outward and downward. The heart sounds may be normal, feeble or accentuated, especially the aortic second sound, or they may be partially or completely replaced by endocardial murmurs. A soft blowing murmur over the body of the heart has often been observed. The syncopal attacks and seizures vary very much in regard to their frequency. His has recorded 153 attacks in twenty-four hours, and in a very interesting case recently reported by Quinan four or five attacks were recorded hourly.

In other cases the attacks are much less frequent, occurring at intervals which are very variable. The patient usually feels

well during the interval between the seizures. The spells may or may not be preceded by prodromata such as mental hebetude, vertigo, vaso-motor instability such as sudden palor or flushing of the face, cold extremities, slight cyanosis, etc. The attack is always sudden. It may only be syncopal or may be accompanied by epileptiform or apoplectiform seizures. One can diagnose the approaching attack by the sudden slowing of the pulse below that in the interval. During the actual attack according to most observers it is absent from the wrist, and the heart sounds may not be audible on auscultation.

There is, in other words, a complete cessation of the heart beats and pulse, as Professor Osler well expresses it, a complete count out. He says to wait thirty-five seconds with watch in hand without a heart beat seems like the final count out. In Quinan's case the pulse waves became less frequent, dropping from forty to twenty-six or less, with slight arrhythmia, then faded out entirely, and the heart ceased to beat. The absolute heart rest in this case occurred some time before the convulsive phase.

A phenomenon connected with this syndrome of much interest, first observed and described by Stokes, though elaborated and brought definitely to our attention through the clinical studies of His, is a positive centrifugal pulsation of the juglar vein exceeding in frequency the apex beat. This indicates that the beats of the auricles and ventricles are of different rythms, a distinct heart block, an allorhythmia or auriculo-ventricular asynchronism.

Case 1, October 5, 1905. Mrs. C. C., aet. forty-nine years, housewife, consulted me in reference to numerous dizzy, faint and convulsive attacks, the first of which occurred two years ago.

Family history. Father and mother both dead of paralysis; one sister dead of typhoid fever, and another from an injury to the spine.

Personal history. Had during childhood, scarlet fever, pertussis, measles, acute articular rheumatism and pleuresy. Menstruation established at fifteen years of age. Always regular and has presented nothing unusual. Had five living children and two miscarriages. Lost one child at fourteen years of age of diabetes mellitus. Has had dyspnoea and rapid heart action for many years.

Present condition. Two years ago developed suddenly a dizzy spell which lasted fifteen minutes. Her present illness began in June, 1905, with pain at the base of the skull which extended through both eyes, this continued several days and then suddenly ceased an interval of three weeks existing before the pain recurred, and then there occurred

occasional convulsive seizures with complete loss of consciousness. During these attacks there was a wild stare, the eyes were rotated upward and outward and fixed. The face was cyanotic or ashen. The loss of consciousness lasted about a minute or more and on its return she seemed dazed, was very pale and extremely nervous. She has had thus far more than a dozen convulsive seizures, together with a great many dizzy and faint attacks. Her husband, a very intelligent man, has noted, during these attacks, that the pulse becomes much slower and then is almost lost at the wrist.

Physical examination. Slightly built, short in stature, flabby musculature, no oedema, slight cyanosis of the lips; face and mucous membranes pale, tongue protruded in the median line. All cranial nerves intact. Optic discs normal, motion and sensation normal. Reflexes intact, memory good. Her facial expression is indicative of much suffering. Lungs exhibit a slight degree of emphysema. The throat is normal.

Heart and arteries. The heart's apex is in the sixth interspace two centimeters outside of the left mammillary line. No thrill. A slight presystolic murmur is present, preceded by a distinct, but very soft, diastolic one, both having their points of maximum intensity to the right of the apex, between it and the left border of the sternum where they are strictly localized. At the aortic interspace a rough systolic murmur was heard, well conducted into the carotids. The first sound at the apex ceases with a sudden slap. The pulmonic second sound is accentuated. The aortic second sound not heard, no double tone in the femorals. Positive centrifugal pulsation of the right jugular vein was observed. The pulse rate was thirty-six per minute, regular, rather firm, but small. The vessel wall while easily palpated, did not appear much thickened. The arterial tension taken with Gaertner's new tonometer, was 180 millimeters of mercury. The urine was acid. S. G., 1016, contained no albumin, sugar, blood or casts. Haemoglobin seventy-five per cent, Tallquist. No blood count was made. A diagnosis of a double mitral lesion and aortic stenosis was made, accompanied with the Adams-Stokes Syndrome. The treatment consisted of nitroglycerin, iodide of potash and strychnine.

October 13, 1905. Patient has had several dizzy spells each day and more than twenty yesterday. On October 11 she had a general convulsion with loss of consciousness. The pulse has ranged from thirty-four to thirty-eight per minute, it is quite regular. The artery seems firm and well filled. The jugular pulsations were 100 per minute. The bradycardia is a true one. October 30, patient seems improved; is less nervous, has no pain in head, has had no convulsions but many dizzy spells. Pulse forty-four, heart beats forty-four times per minute.

November 3, 1905. Several dizzy spells, no convulsions. Patient sitting up, appetite good, pulse thirty-six, regular. Positive centrifugal jugular pulsations. Tension 170 millimeter mercury.

November 20. Pulse forty-two, regular jugular pulsations eighty-two, cardiac murmurs less distinct, no convulsions, bradycardia true.

December 20. Patient much improved, only a few dizzy spells each

day, able to sit up out of bed. Pulse forty-eight. No convulsions since October 11, 1905.

I never happened to see this patient either in a severe faint attack or in a convulsive seizure, though often summoned, when I have arrived the attacks were over.

Case 2.—M. A. L., aged 72 years, married. Her family history is not important. She is the mother of six children, five of which are living and well. She has never before been ill and has enjoyed a very active life. Her present trouble began about eight years ago when she noticed dyspnoea on slight exertion and she was easily fatigued. In February, 1897, after a hearty meal she had a fainting attack which passed off in a few minutes. A physician was called and she was then told that her pulse was 40 per minute. In May, 1903, she had another fainting attack while walking over a railroad track. She had no warning but fell and immediately became unconscious for several minutes. A physician was again called and noted the slow pulse. These attacks became more frequent and more severe. On several occasions she was cut about the head and face.

On May 3, 1904, she had an attack and it was said that she was unconscious for one and one-half hours.

I saw her for the first time May 6, 1904. She had had a severe seizure that afternoon and was then suffering from an attack of oedema of the lungs.

On examination, the following conditions were found. The patient was sitting propped up in bed. Dyspnoea was well marked and she was quite cyanotic. The apex beat was in the fifth intercostal space about one-half inch outside of the nipple line. At the apex a systolic murmur was heard which was conducted toward the axilla. The second pulmonic sound was accentuated. There was also a systolic murmur heard over the aortic interspace and conducted to the vessels of the neck. The pulse was slow and sometimes intermittent. The radial and temporal arteries were very much thickened. Urine negative. Examination of the lungs showed emphysema, and pulmonary oedema at the bases of both lungs. She was very nervous and demanded constant attention.

Her condition became somewhat better but at times she would feel dizzy and become short of breath. On May 12, she had a severe attack and the nurse made the following observations: "Patient suddenly raised her hands to her head and sank deeper in bed. The respirations became rapid and she became cyanotic. The radial pulse was not perceptible but a cardiac impulse was felt beating 102 times per minute. Hypodermics of nitroglycerin were given and the pulse became perceptible at the wrist at first thirty-six per minute. Unconsciousness lasted about 10 minutes." June 1, although she had had several slight attacks, she was quite comfortable and her general condition seemed much better. On the morning of June 2, she suddenly raised her hands to her head, became very cyanotic, respirations became very rapid and ceased five minutes after attack began. Autopsy not allowed.

Case 3.—I am indebted to Dr. Gow of Schuylerville for the opportunity of examining the following typical case of Adams-Stokes disease:

The patient, J. E. B., age sixty-one years, farmer, consulted me April 11, 1904, complaining of dizzy attacks, dyspnoea on exertion and convulsive seizures.

Family history.—Father died of typhoid fever; Mother, of phthisis pulmonalis; two brothers died in childhood, cause unknown. One sister dead of malarial fever. Personal history, unimportant.

The present trouble began about one year ago with dyspnoea on exertion and in January, 1905, he became very faint and would have fallen to the ground save that he was caught by a bystander. Since then he has had three attacks in all of which he has fallen to the ground unconscious. In one of the attacks the unconsciousness lasted three minutes. In the last attack, which occurred while he was standing in front of a window in a drug store at Stillwater, he plunged directly through the window while in convulsion and was badly cut about the face and scalp.

Physical examination. Strongly built, large frame, dusky face, venules of face prominent, tongue protruded in the median line.

Heart and arteries.—The apex is in the nipple line. The first sound is prolonged and booming. The aortic second sound is accentuated. A $\frac{2}{3}$ soft, systolic murmur exists in carotids. The cardiac dulness is almost effaced by a vesiculo-tympanitic note. The pulse is 28 per minute and quite regular. The arterial wall is thickened; the radial and temporal arteries are tortuous and the radials are almost incomprehensible. The arterial tension is plus 215 mm. Hg, mercury Riva Rocei instrument.

Dr. Gow states that his pulse rate varies between 20 and 30 per minute. He has never observed him during an attack. The jugular pulse rate was 76 per minute. Cranial nerves were intact. The sensorium was free. The reflexes were intact and normal. Station was good, and the gait was normal. The liver dulness was almost effaced by a vesiculo-tympanitic note. The lungs show a marked degree of emphysema. The urine was entirely negative.

It was perfectly evident that this patient presented the symptom complex so characteristic of Adams-Stokes disease together with marked general arterio-sclerosis. He was accordingly advised to take potassium iodide with nitroglycerine and to rest for several weeks.

Three weeks afterward he had a severe convulsive seizure which terminated fatally. No post mortem examination could be obtained.

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AUTOPSY OF MR. ADAMS' CASE.

The most remarkable example which I have yet seen of the degeneration of the heart into fat, is preserved in the Richmond School of Anatomy. It is the heart of a man whose case is described by Mr. Adams in the Dublin Hospital reports. He was 68 years of age of a full habit of body and subject for many months preceding his death to attacks of an apoplectic nature; before each of which he was heavy and lethargic with loss of memory, he would then fall down in a state of complete insensibility; when they attacked him his pulse which generally ranged at 30 in a minute, would become even slower than usual, his breathing became stertorous; he died in one of these attacks.

Upon examination of the body the condition of the heart particularly attracted attention.

The right auricle was much dilated. The right ventricle presented externally no appearance of muscular fibres, it seemed composed of fat of a deep yellow color throughout its whole substance. The reticulated lining of the ventricle which here and there allowed the fat to appear between its fibres, alone presented any appearance of the muscular structure. The left ventricle was very thin and its whole surface was covered with a layer of fat. Beneath this the muscular structure was not a line in thickness; it had degenerated from its natural state, was soft and easily torn and a section of it exhibited more the appearance of a liver than a heart.

ALBANY MEDICAL COLLEGE IN WAR TIME.

Annual Address before the New England Alumni Association of the Albany Medical College, at Hartford, Conn., December 6, 1905.

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In preparing a history of the class of 1865, I found some old documents and letters, together with memorandum of conversations with Dr. Devol and others, which at this time may have some historic interest. I speak of Dr. Charles Devol, for the reason that he was quite a remarkable man in many ways, and was well known by nearly all the students of these times. He was a Methodist minister, for nearly half a life time, then became a physician, and practiced medicine in Albany for the remainder of his life, dying somewhere in the eighties. Dr. Devol was a frequent visitor at the college, attending lectures, and a great admirer of Dr. March. He was invited occasionally to deliver lectures on Homeopathy, which was always the occasion of the most boisterous applause and hilarity. He had the utmost contempt for this branch of practice, and described his opinions in wild, lurid rhetoric, and startling expletives, so that his appearance as a lecturer was an Opera Bouffe of the session.

At the beginning of the civil war, the Albany Medical College was, perhaps, about the same as many of the other inland colleges, except that in surgery it was recognized as particularly strong. There were schools at Geneva, Castleton, Pittsfield and other places farther west, and they were all practically local colleges. The Albany school being nearer to New York, and having a rather noted faculty, was considered better. In New York, Philadelphia and Boston, the classes were larger, and most of the teachers had received training abroad, and adopted the foreign customs of having little to do with students outside the lecture room, paying little attention to their progress, only requiring that they pass the stated examinations. The only preliminary for admission to lectures was a physician's certificate, that the applicant had registered in his office, and received whatever instruction he may have given him.

The examinations at the close of the term were formal and technical in the large schools, and the student with a good

memory was sure to pass, while the much stronger man, but of less available memory, was turned down. At the close of each session, quite a number of students felt the injustice of failure, comparing themselves with others who succeeded from the accident of memory, and concluded that it was favoritism and prejudice and consequently, took the next course of lectures at some inland college. Many students of this class came to Albany, and graduated with honors, and became distinguished physicians, later realizing that the failure to pass one college was a blessing in disguise, as it made them stronger students for the future. Union College, at Schenectady, for many years was called "A Botany Bay," where expelled and faulty students of other colleges, could repair their losses, and receive diplomas. The president of this college, Rev. Dr. Nott, had a remarkable personal magnetism and faculty of influencing and controlling refractory students. Men from other colleges, who had failed, came here and developed into strong characters. The Albany Medical College had something of a similar reputation. No doubt Dr. Marsh, who was a warm personal friend of Dr. Nott, unconsciously copied many of the means and methods used in the development of the student, hence from the early days of the college, each medical student was personally known to the teacher, together with his history, general conduct and character. His appearance in the lecture room, and individualism, of strength and weakness, was the subject of inquiry and observation, and was considered in the final examinations, and forecasts for the future.

While the class of graduates in the fifties, and up to a recent period may have lacked in general training and culture, compared with those of some of the sea board schools, they were, as a rule, superior in personality and practical grasp of the facts which were to be utilized in after life. To Dr. March's emphatic personality was added that of Dr. MacNaughton, who was a Scotchman of very high ideals, and of equally strong individualism. Others of the faculty were characteristic teachers, and the student could not help but feel the influence of these men beyond their formal lectures. The class of '61 began to feel the coming storm of war, and the demand for medical service, both in and out of the army, was realized by thoughtful men. Enthusiastic war physicians all over the country gave up their practice for army service, and left vacancies.

In 1862, the quietness of medical work all over the Northern States, was greatly disturbed. The doctors had gone to the front, and empirics and quacks were occupying their places. The class of that year was large, and composed of men anxious to get a diploma to go into the army or occupy vacant places at home. The class of 1863 brought a number of war veterans, soldiers, hospital stewards, nurses and men who had taken one course of lectures, before the war broke out; wounded men and those who had attended lectures in Washington during their army service, and many who had taken a course in the eclectic or homeopathic colleges, and who realized that a diploma to be of value must be from a reputable college.

The same class flocked to the seaboard colleges, but a large proportion appeared at Albany, probably because the fees and other expenses were lower than in New York. They were probably what was called "speculative students," but who now were attracted by the possibilities of "short cuts" into the profession, with all its honors and emoluments.

Young men in various parts of the country caught the contagion of becoming physicians, serving in the army, or attaining prominence at home. Curiously enough, quite a large proportion of the graduates during these war times dropped out of the profession, after the close of the war, and became business men.

The class of 1864 was very much of the same character, only there were more hospital stewards, more army veterans, and more students who had taken one or two courses at other colleges, and presumably had failed to pass the examinations. The classes of '65, '66 and '67 contained large numbers of men with army experience, and others who were anxious to secure diplomas for various reasons.

After that the number dropped down and the veterans disappeared, and a class of students followed who appeared to have better preliminary training. During these years the college was prosperous, surgery was the popular and leading topic of instruction. Dr. March was at the very acme of his professional life, his lectures and clinics were crowded by anxious students, who followed his instructions with great eagerness. His lectures were largely an amplification of Druit's surgery, one of the great authorities of that day, and were very practical, intense, personal presentations of subjects that had a wide influence on the character and culture of his hearers.

Dr. Mac Naughton, who taught practice, was not so popular among his students. He followed Cullen, a great Edinburgh authority of that day, and gave prominence to calomel, bleeding and other measures which at that time were condemned by some modern authorities.

His descriptions of disease were listened to with great attention but his means of treatment created considerable displeasure, manifest in boisterous conduct, and noisy demonstrations. He was more feared than any other teacher because of his strenuous ethical notions, and the understood sentiment that he had declared his determination to "black ball" any students, and prevent them from securing a diploma, who intended to engage in other than the regular practice.

In this the faculty seemed to be in accord, but Dr. Mac Naughton was particularly outspoken. The sudden withdrawal of a large number of prominent physicians from private practice into the army, furnished an exceptional opportunity for irregulars of every class to rush in and occupy their vacant places. After a little experience they found it necessary to have a diploma, and sought some colleges where the final examinations were not very severe.

Both Dr. Mac Naughton and Dr. March were implacable enemies of students with this intention, and many of these men who failed in Albany succeeded in other schools whose lecture courses were held in the spring. This wave of empiricism died out soon after the close of the war, and these half trained irregulars finally disappeared in a large degree. It was one of the jokes among the faculty as the graduation approached, that so many of their "black balled" students would go to this or that neighboring college for diplomas, depending on the amount of money they had and their desire to get through quickly.

The idea prevailed in the colleges of New York and Philadelphia that Albany was one of the hardest inland colleges from which to secure a diploma. In a letter of advice given to a young man, who wanted to get through quickly (noted in the published correspondence of Dr. Laurance), a warning was given to "keep away from Albany, as they were a lot of old fossil professors, without sympathy or liberality for any one who did not come up to their standard."

While most of the colleges were more or less weak in their standards, it was pleasant to note that the Albany faculty were

considered a good deal above the average of that time in the requirements for a diploma.

Many of the students of that war period had suffered both from disease and injury in the army and in prison, and were regarded with great sympathy and encouraged in their studies, and were no doubt given preferences in the final graduation.

Dr. Mac Naughton's reputation for severity held in check many who had quackish intentions, but it was a curious fact that by some means unknown every student who expected to practice in any other school of medicine was known to the faculty. A story is told of a young man whose parents were very strenuous advocates of the homeopathic school, and who passed a very brilliant examination and was a man of more than usual genius, but the faculty decided to keep him out for this reason. He was finally called in and questioned as to his intentions. He frankly stated that he had intended to go into this school of practice, but on reflection he found he could secure a place in the army, and therefore would take up that branch of medical service. Dr. Mac Naughton remarked, "We must pass him, and if an experience in the army does not change him he is hopeless." The story is that he continued in the army until death, and was a very active, useful man.

Among the other professors of that period was Dr. Barker, who was not only a brilliant man and very famous in after life, but a great ethical teacher. He insisted that students should observe the proprieties of gentlemen, and if anyone in his department failed in this, he received no favors, no matter what his other qualifications were. Dr. March was also very emphatic in condemning rudeness and boisterous manners. Dr. Armsby was less pronounced, but had a silent way of expressing his disgust for bad manners. During all these war times it was an unwritten law that the rude and bad mannered students would not be certain of securing a diploma, no matter how brilliant their examinations might be.

Dr. March insisted that each student should have a general knowledge of the theory and practice of surgery, and also with Dr. Barker, that he should be a gentleman in his manners. Dr. Mac Naughton wanted to know that he would not be a quack, or practice in other schools of medicine. Other professors had equally strenuous views as to the qualifications that a diploma should represent, so that notwithstanding the rush and excite-

ment of war times, and the desire to go into the profession, there were many difficulties to be overcome. One of the incidents occurring in those stormy days, told by a student of Dr. March, is interesting at this time.

On the occasion of a great battle, a demand was made for volunteer medical services and Dr. March responded, going to Washington with other leading men to care for the wounded, particularly the New York State troops. He was assigned to a hospital presided over by an army surgeon who had been his student a few years before.

After the first greeting the surgeon handed Dr. March a paper, on which was noted the operations to be performed in certain wards, with directions concerning the nature and character of the operations.

The doctor studied this paper with a little surprise, not expecting that an old student would give him directions what should be done. It was ascertained that the same instructions were given to all, but the doctor was a sensitive man, and felt the chill of being advised by an old student. He proceeded with the operations, acting on his own judgment, paying little or no attention to the instructions.

In the evening the work was resumed. Here he objected to the etherization of patients in close proximity to a smoking kerosene lamp, for fear of an explosion. The attendants not complying with his request, he stopped and refused to go on until there was more caution and care preserved.

An explosion occurred in a neighboring ward, in which both the surgeon and patient were burned. This was reported to the surgeon in charge, who in great anger declared that it was the fault of the volunteer surgeons, and that he was the responsible head of that hospital and no outside surgeons should dictate to him. Dr. March made no reply, but his flashing black eyes spoke volumes of indignation. The next day he called on the division surgeon, and remarked that his services were not wanted any longer in that hospital. The surgeon, who was a graduate of a New York college, greeted him very warmly and told him to go and operate in another hospital in any way he pleased, and detailed several assistants to attend him and carry out his instructions.

He performed several severe operations in his usual independent, bold manner, and later, when dining with the surgeon in

charge, explained that perhaps he had violated the general medical work by not following orders, but the surgeon replied saying: "It was impossible for authority like him to be criticized in any direction, and anything he did would be legitimate in every particular." This pleased the doctor very much, who remarked laconically, "that this surgeon was a gentleman, while his old student in the other hospital, was not." Years after, this old student, who was a prominent surgeon in central New York, sent for Dr. March to consult with him about his only son, who had a hip joint fracture. He went promptly, and gave the assistance required. A few weeks later Dr. Frank Hamilton, a very eminent surgeon who had disputed Dr. March's theories of intra-capsular fractures, was called in consultation, and Dr. March was asked to join them. This he refused in a most emphatic way, remarking, "That anyone who had shown so little confidence in his judgment, could not insult him any more." As showing his strong appreciation of kindness, years afterward the army surgeon who had greeted him so warmly in Washington, was very ill in Saratoga, and finally died. The doctor visited him frequently, and gave him unusual attention. While Dr. March was sometimes brusque in his manners, he respected gentility and courtesy in a very unusual degree among his students and friends, and was thoroughly loyal and emphatic in his likes and dislikes.

During this war period there was a somewhat noted controversy waged between him and Dr. Frank Hamilton of New York, a highly cultivated man and distinguished surgeon. The battle turned on the evidence of the healing of an intra-capsular fracture. Whether there was such a lesion, and if it occurred, whether any evidence that the bone was united, was the question which each one sought to prove by evidence that the other doubted. The discussions were bitter and acrimonious, and ended as all such contests do, without definite conclusions. Dr. March was bold, fearless and generous, while his opponent was technical, personal and lawyer-like in his arguments.

One of the specimens which was used and examined by a large number of surgeons in this controversy, and seemed to settle the question of bony union within the capsule, was found to be a fraud, after the controversy was ended. It was procured in Paris, and consisted of a very adroitly formed plaster Paris head attached to the bone, which was overlooked by all the sur-

geons who examined the specimen. The doctor used to laugh at this incident and its termination, and refer to it in private as evidence of the fallacy of human judgment. Dr. Mac Naughton was equally strenuous for ethical courtesy, and the recognition of the proprieties of professional conduct, and often was intensely prejudiced against any one who, from design or accident, failed in this particular. During the latter part of these war times, a number of old graduates with the war fever appealed to Dr. March and Dr. Mac Naughton to secure appointments in the army.

It was curious that the history both before and after graduation, and the general character of the applicants, was known so minutely that they could decide at once what to do. Any graduate whose personal standing in the community was not above suspicion received no encouragement.

From time to time much outside influence was brought to bear to secure an appointment or promotion in the army. On one occasion the appointment of a New York physician as surgeon of a prominent regiment in preference to his rival, who was a graduate of the Albany Medical College, created some bitterness. Dr. March promptly announced that he would help no man to a professional position whose character had been in question in a breach of promise case. Many similar incidents occurred in which the members of the faculty were asked to sign petitions to the governor and surgeon-general, to make appointments.

One story is told of Dr. March signing a petition of this kind, and soon after observing the petitioner in a violent altercation with a hackman, in which the petitioner was very profane, he called for the petition and deliberately crossed his name out, saying "That he recommended no man who could not control his temper in trivial matters." Dr. Armsby and Dr. Quackenbush were recognized as the political members of the faculty; the latter became surgeon-general of the State, and the former was consul general at Naples for a short time. During Dr. Quackenbush's term of service as surgeon-general, it was thought that he favored the graduates of the college in their appointments as surgeons in the State troops. This was very likely true, but it was understood that the graduate must be a man of character and rank medically with the graduates of other colleges.

Drs. March and Mac Naughton were very freely consulted

on these matters, and it was understood that all favoritism must have some basis in ability and character.

Many students came to Albany for the last course, hoping that some influence might be obtained to secure them positions in the army. The faculty were generally considered independent, and the governors and State authorities frequently consulted them as to means and measures not only concerning war matters, but State institutions, and it was an unwritten law, which probably holds good even to-day, that State affairs opposed by the Albany Medical College and physicians of that city had most serious obstacles to overcome.

On one occasion a graduate was astonished that he could not get their signatures. He ventured into Dr. March's office to inquire why he could not secure his influence; the doctor remarked "that he drank too much beer, and spent too much time about the theaters in Pearl street to make a good physician."

At times there were unusual demands for physicians in the navy, and the surgeon-general wrote on one occasion offering to appoint any graduates Dr. March could recommend for positions. Five of the graduating class were invited to call at Dr. March's office, where he made the offer to each one, accompanied by the most fatherly advice, that they should be conscientious, Christian gentlemen. One of the men related to me this incident, and stated the great surprise they all experienced at his advice, so thoroughly religious and moral, and on the levels of a clergyman, and that nothing in after life was remembered with more pleasure than this few *minutes* conversation. They all went into service, and two of them continued for a lifetime.

In the latter part of the war period Howard Townsend became a member of the faculty. His highbred, polished manners, and generous frankness, were a strong addition to the ethical ideals of the college. He was a courteous teacher, and unconsciously impressed and gave tone to the student life in those days. It has been said that next to Dr. March he was the most influential teacher in his personal magnetism of that period. The limit of my time prevents me from mentioning other members of the faculty who were both influential and prominent in many ways.

In 1862 the wounded soldiers of New York began to be sent home, and they came through Albany in large numbers. Often

they were placed in the hospital for temporary treatment before going farther.

At one time the Hudson river boats brought up large numbers daily, and the Albany hospital was often crowded with them. Early in '64 the Ira Harris hospital was established on the ground now occupied by the new City hospital, for the New York wounded soldiers on their way home, and was quickly filled. Dr. Armsby was made surgeon in charge. The position was offered to Dr. March, but he declined, saying that he had had enough of military surgery.

Either by accident or design it was soon apparent that nearly all the assistant surgeons in the hospital were graduates of the college, many of them living in the neighborhood. At one time there were six assistants. Among them was a graduate of a Philadelphia college, who was bibulous, and on several occasions he made himself offensive.

Complaint was made against him, and he was suspended and ordered to report to headquarters at Washington, where he was assigned for duty. For some unknown reasons he began a systematic course of persecution and slander of Dr. Armsby, his assistants and the hospital management, making various charges. Inspectors were sent to the hospital, and reported from time to time that the charges were unfounded. One charge was that the hospital was used by the Albany Medical College for teaching purposes, to its great detriment, also that Dr. March operated there twice a week before the students, and had patients brought down to the college for clinical work.

Dr. Woodward, who afterward became a famous surgeon, was sent as an inspector, to observe if these abuses existed.

He reported that the services rendered by Dr. March were of the highest order, and were gratuitous, and that the hospital and the work done for the soldiers was equal to that of any other institution in the world. Many of the young men attending the college during these days served as hospital stewards and cadets at this hospital, and several of the assistant physicians were eminent practitioners in after life.

The first two years of the war there was a great deal of political strain and effort to get into the service, by men in active practice, prominent at home. Later these men dropped out, either resigning or being mustered out, preferring civil life to that of the field work. Then came a class of recent graduates, and men

without positions, who from that time on to the close of the war, were constant applicants for every vacancy. These men belonged to what is now known in the profession, by the significant words "tramp physicians." They were seen in large numbers about Albany, attending lectures at times, and hanging around the surgeon-general's office, looking for appointments and vacant places.

The bulletin boards of the college during these years were always filled with notices of vacant places, needing physicians, and want notices for students to do medical work. Many of the last course students had selected a place for practice and made all the arrangements for starting immediately on the receipt of the diploma.

The medical men who left Albany in war times, have very largely disappeared from the stage of active life. A few of them attained some eminence, and the large majority no doubt played their part well, and were known as excellent men in their surroundings. In the memoirs of an old teacher, Dr. Warren, who died a few years ago in Boston, and who probably attended a course of lectures in Albany, somewhere in the sixties, occurs this comment: "The Albany Medical College has a curious combination of Edinburg University ideals, with the Green Mountain conceptions of medical ethics and duties in which the highest requirements are suavity, generosity, and a student instinct to learn." The faculty of the college for the fifties and sixties, were no doubt, very human with their intense prejudices, and readiness to battle for the right, but with it all there was generosity and fairness, always contending on an open field, with a definite object in sight.

It is a pleasure to note that this spirit of ethics still lives, and although half a century has gone since the stormy days of war, there has been a constant evolution upwards and outwards. The new hospital and the new college to come, with the new faculty already in training, give promise for a larger future and greater work.

ASSOCIATION OF THE ALUMNI OF THE ALBANY
MEDICAL COLLEGE—THIRTY-THIRD ANNUAL
MEETING.

The thirty-third annual meeting of the Association of the Alumni of the Albany Medical College was held in the new lecture room on Tuesday, May 1, 1906. The usual informal reception was held in the college library, where photographs were exhibited and greetings exchanged, between the hours of 9 and 10:30 A. M. The annual meeting was called to order by the President, Dr. Charles B. Tefft ('66), of Utica, N. Y., at half-past ten o'clock.

The following named members of the Association, with invited guests, students of the college and others interested, were present: Alfred B. Huësted, ('63); Charles B. Tefft, ('64); Charles E. Witbeck, ('66); Daniel C. Case, Willis G. Tucker, ('70); John K. Thorne, Gebhard L. Ullman, ('71); J. H. Blatner, ('72); Daniel H. Cook, Henry G. Mereness, ('74); Mark M. Lown, ('77); Frederick H. Brewer, John H. Cotter, Earl D. Fuller, Henry Lilienthal, George P. K. Pomeroy, William O. Stillman, ('78); William J. Nellis, ('79); George S. Munson, ('80); Frederick L. Classen, James H. Mitchell, ('81); Wallace E. Deitz, Adam Y. Myers, William B. Sabin, ('82); Joseph D. Craig, James W. King, ('84); Terence L. Carroll, ('85); William P. Brierley, William B. Campbell, Arthur S. Capron, James A. Clyne, William H. Delamater, Elmer E. Finch, James A. Holley, Richard H. McCarty, James H. Reilly, John A. Robson, Arthur D. Stowitts, ('86); Andrew MacFarlane, Charles H. Moore, Henry F. C. Müller, ('87); Charles F. Clowe, George G. Lempe, ('88); G. Emory Löchner, J. Montgomery Mosher, ('89); Arthur G. Root, Edgar S. Simpkins, ('90); William S. Ackert, James W. Wiltse, ('91); Leo F. Adt, Howard E. Lomax, Leo H. Neuman, Clement F. Theisen, ('92); Thomas W. Jenkins, Thomas A. Ryan, ('93); John R. McElroy, Arthur Sautter, ('94); Charles L. Myers, Frederick J. Resseguie, Leonard G. Stanley, ('95); John J. Dever, Harry O. Fairweather, George B. Grady, Henry W. Keator, Parker Murphy, Elbert A. Palmer, T. Avery Rogers, Jesse M. W. Scott, James C. Sharkey, John D. Vedder, Edward J. Weincke, ('96); Eugene J. Hanratta, H. Judson Lipes, ('97); L. Barton Schneider, Alvah H. Traver, ('98); Christian G. Hacker, Eugene E. Hinman, Daniel A. McCarthy, ('99); Thomas

H. Cunningham, ('00); Arthur J. Bedell, John M. Griffin, ('01); Thomas Carney, ('02); Charles R. Marsh, ('03); John I. Cotter, Marcus A. Curry, Branson K. DeVoe, Daniel V. O'Leary, Jr., ('04); Kenneth D. Blackfan, Archie B. Chappell, Miles J. Cornthwaite, Thurman A. Hull, Lemuel R. Hurlbut, Roscoe C. Waterbury, ('05); Roy M. Collie, Morey C. Collier, Charles E. Collins, Frederick C. Conway, Edward A. Dean, Adelbert S. Dederick, T. Frederick Doescher, Willis W. Dutcher, H. Ernest Gak, George R. Goering, Stowell B. Grant, Joseph F. Harris, Charles B. Hawm, Samuel O. Kemp, Jr., Winfield S. Kilts, William A. Krieger, Price Lewis, Walter A. Reynolds, J. Fletcher Robinson, Willis N. Simons, Eugene G. Steele, Edward G. Whipple, ('06); James P. Boyd, Frederic C. Curtis, Spencer L. Dawes, Henry Hun, Cyrus S. Merrill, Samuel R. Morrow, Richard M. Pearce, John A. Sampson, Howard Van Rensselaer, Samuel B. Ward, (Hon.).

On motion of Dr. Tucker, the reading of the minutes of the last annual meeting was dispensed with and the minutes were approved as printed in ALBANY MEDICAL ANNALS.

The President introduced Professor Howard Van Rensselaer, who delivered the following address of welcome on behalf of the faculty:

ADDRESS OF WELCOME.

Gentlemen of the Alumni:

On behalf of the Faculty of the Albany Medical College, it gives me much pleasure to welcome you again, on this the thirty-third anniversary of the annual meeting of the Alumni Association.

As many of you are unable to return each year to these reunions, it is easy for you to lose track of what is going on at the Medical College; and, knowing your interest in these matters, I thought it might be well to tell of the new work accomplished here, and of our plans and hopes for the future.

The head of each chair in our college, is a member of one or another of the great national medical associations, each belonging to the one whose object is the study along the line of his particular specialty. At the yearly meetings of these national societies, we come in contact with the best medical teachers in the various universities, and each of us professors is able therefore to make his own teaching conform to the most advanced and best standards on his subject.

So that in the old regular departments we feel that our methods of teaching are abreast of the times, and that we do not fall behind those of any other medical school.

There is one modern branch, however, in which we have been deficient, a department that has but lately come into prominence, and is at present taught in the very best colleges only. I refer to practical laboratory training in experimental pharmacology, physiological chemistry, and experimental physiology. For several years we have felt the need of giving instruction in these branches, but we had neither the laboratory, nor the equipment, nor the means to carry out our aim in the best manner.

This year I am pleased to tell you that we have overcome some of the difficulties and have succeeded in inducing Dr. Holmes Jackson to come here and teach these branches. He is thoroughly equipped to give such instruction. Concerning the methods of teaching these subjects, Dr. Jackson says:

"The course in physiological chemistry in the second year aims to give to the student a fundamental conception of the normal and pathological composition of the various tissues, organs and secretions, as well as of the character of the physiological and pathological chemical and physical reactions of the animal organism, with the view to enabling him more clearly to understand the reasons for disease and of the various means adopted to prevent and remedy pathological conditions.

"At the outset, the three basic or proximate constitutional compounds of the body—carbohydrates, fats and proteids—are studied as regards their distribution, composition, characteristics, properties and their origin and fate in the animal mechanism. Based upon this follows the chemical examination of the various organs and tissues—muscle, brain, liver, etc.—both as to normal chemical composition and the effect of pathological processes upon this. Where possible the individual chemical compounds which may be regarded as most characteristic of the tissue are isolated and studied. The secretions of the gastro-intestinal tract are next considered both concerning their general composition and the factors which influence this, as well as the action of the numerous enzymes present, upon the three classes of food stuffs. Finally the urine receives attention to the extent of one-third the course. The important normal and pathological constituents are separated and examined as to methods of detection and quantitative analysis. Quantitative determinations of chlorides, phosphates, urea, uric acid, dextrose and proteid are performed in the laboratory; and the whole is supplemented by talks on the various pathological chemical changes which exhibit themselves in, and allow of diagnosis by a changed composition of the urine.

"If the curriculum can be so arranged that such a course would be of advantage to the student, it is the expectation to introduce experimental demonstrations accompanied by talks on the part of physiology connected with secretions, digestion, absorption, excretion and general metabolism. Some of the demonstrations might be—the secretion of the saliva and action of drugs (atropine and pilocarpine) upon it; the mechanism of swallowing; the influence of the vagus upon the heart and gastric secretion; the secretion of gastric juice and the factors which influence it; mechanism of pancreatic secretion; peristalsis and conditions influencing absorption from the intestine (action of salts, drugs, etc.); effect of various circulatory factors upon the secretion of urine; attempts

where possible to simulate in experimental form, pathological conditions and to demonstrate the effects which follow such changes (experimental diabetes, etc.).

"If time allows, the action of various important drugs (nitrites, arsenic, cocaine, chloral, digitalis, strychnine, etc.) and extracts from pathological chemistry will be demonstrated."

During the fourth year of the curriculum, we are giving up didactic lectures as much as possible, and are substituting for them clinical instruction. There are a great number of these courses, covering almost every specialty in medicine, in which the class is divided into sections of about six men each. Every student, therefore, comes in intimate contact with the patient, and is able to train his eyes, ears and sense of touch, and to reason and make deductions in a way that is impossible by didactic teaching.

Within the past two years a special voluntary practical course in obstetrics is given to the senior students, in addition to the regular instruction in the hospitals. This is conducted by Dr. Lipes under the auspices of the Guild for the Sick, the women being confined in their own houses. During the past year 23 students have availed themselves of this opportunity, and attended about 60 confinements. Two students go on a case so that each has averaged three or four confinements. In addition many opportunities have been given them to assist their local preceptors, or even to attend cases in their absence, after they have had this practical training. A touch course in the examination of pregnant women is also given. The entire work of this department is continued through the summer; each student being kept on duty for a period of two weeks.

It is hoped that in a short time this course may be made compulsory, and become a part of the regular curriculum.

You gentlemen are undoubtedly surprised to meet in this room instead of in the old Alumni Hall. The reason is that lack of space has compelled us to use that room for a laboratory, and it emphasises the fact that we are gradually outgrowing our present accommodations, and that our most vital and urgent need now, is a new, well equipped, and commodious laboratory building. We see but little indication of its speedy fulfillment, but it is our immediate aim in the future.

Once again we welcome you back to the scenes of your early struggles, and urge you to make the effort and sacrifice, to return each year to meet your old chums, and to form new friendships among the younger graduates, that your memories and hearts may ever keep fresh and young, and constantly increase your loyalty and pride in your Alma Mater.

On motion of Dr. Earl D. Fuller, the thanks of the Association were tendered Professor Van Rensselaer for his address and a copy was requested for publication.

Dr. John H. Cotter then moved that the President appoint a committee of five to nominate officers for the ensuing year. Carried. The President appointed as such committee: Drs. John

H. Cotter ('78), Frederick H. Brewer ('78), James H. Mitchell ('81), Henry F. C. Müller ('87), and Daniel C. Case, ('70).

The Recording Secretary presented the

REPORT OF THE EXECUTIVE COMMITTEE AND RECORDING SECRETARY.

Two meetings of the Executive Committee have been held during the year.

At the first meeting, held May 25, 1905, the Recording Secretary presented the minutes of the thirty-second annual meeting of the Association, including an account of the Commencement Exercises, and on motion this manuscript was referred back to the Recording Secretary to be published in the usual way, and the Treasurer was authorized to meet the expense of reprints, and envelopes for mailing, and of the Treasurer's blanks.

Dr. Tucker, of the Alumni Banquet Committee, presented a report, showing a deficit of \$84.10, which had been paid by the college faculty.

The second meeting of the Executive Committee was held March 1, 1906. Arrangements for Alumni Day were discussed, and a subcommittee of five was appointed to carry out the plan for the annual meeting.

The Treasurer reported a deficit of ten dollars in the treasury, which was made up by the members of the Executive Committee present.

The Corresponding Secretary was authorized to have the usual notices for the annual meeting printed and distributed.

It was decided to arrange for the Alumni dinner on the evening of Commencement Day, the price per plate to be three dollars.

On motion of Dr. H. Judson Lipes the report was accepted and ordered entered upon the minutes.

The Treasurer, Dr. Robert Babcock, presented his report for the years as follows:

TREASURER'S REPORT.

CR.	
Balance on hand May 1, 1905.....	\$35 32
Dues received during year 1905.....	85 00
	<hr/>
Total	\$120 32

DR.	
Various bills paid for which vouchers are presented.....	120 10
	<hr/>
Balance on hand May 1, 1906.....	\$0 22
College Building Fund.....	114 10
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[Signed]

ROBERT BABCOCK,
Treasurer.

On motion of Dr. Charles H. Moore, the Treasurer's report was referred to an auditing committee, consisting of Drs. Moore, G. L. Ullman and W. E. Deitz, who subsequently reported it correct. The report of the Auditing Committee was received and the committee discharged, and the report of the Treasurer was accepted and ordered placed on file.

The President's address being the next order of business, Dr. Mark M. Lown, Vice-President of the Association, was called to the chair, and President Tefft delivered the following address:

PRESIDENT TEFFT'S ADDRESS.

OUR ALMA MATER.

MOTHER. No word in any language so stirs the blood as mother. No word when spoken so quickly commands our entire attention and we stand amazed as the picture of our lives with mother is unfolded. The nourishing mother, the fostering mother. From our first cry through her whole life she had but one thought, our welfare. Sang but one song, our praise. Had but one ever present desire, our success. To her we are indebted for the foundation upon which a structure might be laid. The blush of shame must come to our cheeks when we realize how far short of the ideal we have builded. We may attempt an explanation, but as a rule the explanation does not only explain, but shows us in a worse light than the first. Let us be honest now and do all we can to make amends for our lack of appreciation of the good work done for our advancement. It might be interesting to pursue this thought farther, but we have not the time and it is not our purpose to more than glance at this one feature of all life in its bearing upon our lives as physicians in our relation to our Alma Mater—the Albany Medical College. We came to her seeking admittance to her household expecting her fostering care. Many in the olden time had nothing to offer but a well developed body presided over by an untrained mind, yet filled with the thought that great possibilities lay buried in the gray matter of our brain that needed only to be stirred to bring forth wonderful results. I think all will agree the stirring was promptly done and was of a character to produce results.

Our Alma Mater with a gentle hand and loving smile drew us to herself and opening wide the portals led us through every avenue and opened wide every door and give us free entrance to every thing, dead or alive. that could help to bring out the undeveloped and hidden in us. Did we then appreciate the faculty of our Alma Mater, Men, all of them, who stood for what was accepted in theory or known in practice throughout the world, untiring workers in a field comparatively little known; earnest in their search for truth, untiring in their efforts to utilize all for the advancement of those looking to them for the knowledge that would equip them for their life work?

We accepted all that came to us no matter at what cost to them as our due and I fear without a just appreciation of the kindly interest that prompted the giver to lay it all before us. The day came that brought the test not of the teacher but of the taught. Teacher and taught anxious for the results of the day. One question towered high above all other questions in the teacher's mind. How can we be just as between student and people and preserve our own self-respect. Failure to many meant much for in the three years now closed their resources had been exhausted. The representatives of our Alma Mater found a way to deal justly with us and with few exceptions all received the long sought parchment with the God-speed of our Alma Mater. Our hearts were full of gratitude and blessing for the great transformation our fostering mother had wrought in us, and we felt then that no sacrifice we could ever make would be too much for us to do. Have we forgotten? Has time effaced the recorded or implied promise of the hour to respond to all reasonable calls from our Alma Mater to promote her interests, enabling her to keep pace with the spirit of today and reach out into any field that should bring her honor. I must plead guilty to a charge of neglect were it preferred and from some things learned within the year I do not believe myself the only one that should so plead. Since being called to the present place I have learned our Alma Mater has met all deficiencies occurring in the provision for our annual alumni meeting and banquet. I do not feel we are altogether to be blamed in the matter because we were not taken into the confidence of the household, informed of conditions as they existed and if necessary spanked into doing what I believe all would be made to see belonged to us to do. We had not realized we were neglecting our Alma Mater. Let us renew our allegiance to the old home and as we live over again the old days renew our allegiance to our cherished college home and be alert to keep our Alma Mater ever in the front rank.

It may be interesting to compare briefly the position of the physician of forty years ago in the community with the standing of the doctor of our times in respect to his influence in the development and directing of matters of public interest. In the olden time he was honored and respected as a man and gentleman by all. He held their confidence, his counsel was sought in all matters affecting the general welfare, and no one did more to promote the best interests of the people than did the old time country doctor. In politics he was not an extreme partisan, but in local matters sought the best and was generally successful. It was admitted he could control more voters than any other man in the community. He was not an office seeker, made no display of goodness, but practised the Golden Rule.

The people appreciated the doctor's services in the sick room and felt in honor bound to compensate him for his faithfulness in caring for the family. If the statement here made is true all will remark there have been some radical changes in the attitude of the people toward the physician. The family physician with his knowledge of the idiosyncrasies and life history of a generation of the family no longer exists, and instead the club, the lodge, and sometimes the distance and the telephone

determine who shall be called when sickness enters the home. The business affairs of life are not managed in that way. Provision is made by statute for the formation of health boards giving such board jurisdiction over all matters affecting the general health of the community. No one would think it necessary to direct in such a statute that such board or a majority of such board must be physicians in good standing among their fellows, well versed in modern research and in accord with methods and practises that have been proven best.

What is the practice? Men without knowledge of anything pertaining to health either technical, theoretical or practical compose a majority of nearly every board of health in the state. They formulate rules and regulations to govern and control in case of epidemic and demand that the physicians under penalties of their law must stamp out epidemics and they hold the physician responsible for the failures that follow. What is the result? Water-borne disease is prevalent in nearly every hamlet in the State. The bacillus of typhoid holds high carnival, The Adirondacks are not exempt. The beautiful foot-hills and valleys of the Catskills furnish an abiding place. East, west, north, south, one story, yes the sea through its sewerage fattened oysters offers us a tempting dish filled with death. Our markets are filled with meats, vegetables, cereals and fish in all stages of decomposition and unwholesomeness. Untainted meats and fish in our interior cities are the exception. The stock selected for our use is not the strong, hearty animals that could be cared on foot. The Pacific coasts send us our fish. The middle west our fowls dead, heads on and undrawn. I do not know a more disgusting, unappetizing sight than is found in a market where western killed fowls are kept. Let us look around and see whither we are drifting. The men interested in the dollar he gets out of it has control of all these things in our State and has no care for the consumer or his family so long as he can control the market. We who profess to follow the teachings of the Bible in many things ignore its teaching along these lines, and are paying the penalties of their disobedience every day of their lives. Let us begin the work of return to right ways and do the best work any physician or man can do in teaching the people how to live and be full of vigor during their life time.

This may appear overdrawn, by some out of place at such a meeting as this. The medical profession do not occupy the position they should in these matters. The alumni of the Albany Medical College should take high ground in matters affecting the public health.

There must be no uncertain sound in what we may offer. Our position should be clearly defined along lines that will receive the united support of our brother practitioners without reference to school of medicine or college, with but one thought, the advancement of the medical profession for the good of all. Let our Shibolet be Physicians to the front where a physician's work is to be done, boards of health composed of physicians with one exception, that exception to be the attorney versed in municipal law, a health officer appointed by the board subject to their orders.

Will this Association be the pioneer in the inauguration of a movement

that shall restore the medical profession to its logical and legitimate place in the affairs of mankind?

I hope at this meeting our Executive Committee may be authorized to give us a detailed report of all matters connected with our State Board of Health at our next meeting. That they may ascertain the amount of money necessary to carry on the work of the Board and pledge the influence of this association to secure from the legislature the money necessary to properly carry on their work.

Young Gentlemen: Permit me to greet you as brothers and congratulate you upon your entrance to the profession of medicine. Your name is inscribed upon a high and honorable roll. Many noble-minded men have stood where you stand to-day, upon the threshold of your life work. You have followed the training prescribed by your Alma Mater; have finished your course with honor, and it gives me, as representing the Alumni of this College, great pleasure to give you all a most hearty welcome to membership in the Alumni Association of the Albany Medical College. You are now a part of the great fraternity of physicians entitled to the benefits that come to all, but do not forget you must also share the responsibilities common to all. Act well your part to-day, build up the foundations laid by our Alma Mater, determine success by the good you do, for by this standard we shall be judged.

The members of the Class of 1906 were present in a body, and rose as the President addressed them at the conclusion of his address, and received them into membership in the Association.

The President then offered to the Association a gavel, presented by Dr. John H. Cotter, of the Class of 1878, an ex-president, stating that the gavel was made from the wood of an apple tree planted by Dr. Cotter, in his own garden. On motion of Dr. Mosher the gift was accepted, the thanks of the Association were tendered Dr. Cotter, and the gavel was placed in the hands of the Executive Committee for a suitable inscription.

Dr. Tucker moved a vote of thanks to the President for his interesting address, a copy of which he was requested to furnish for publication in the ALBANY MEDICAL ANNALS. Vice-President Lown put the motion to a vote, and declared it unanimously carried.

President Tefft then resumed the chair.

The report of the Historian of the Association, Dr. Hinman, was then presented, and ordered entered on the minutes.

REPORT OF THE HISTORIAN, E. E. HINMAN, M. D.

Fellow Alumni:

During the year that has passed since my last report we have added much valuable information to the archives of our Alma Mater. Letters of inquiry have been written to each member of the classes reported upon this year whose address we have but many have failed to reply. In all such cases, unless we chanced to have some personal knowledge as to their whereabouts, I have been compelled to report them with those of whom we have no record. There was no class of '76 because the class of '75 graduated December 23rd of that year and the next class did not graduate until January 31, 1877.

Of the forty-four who graduated in '46 but one survives, Dr. Rensselaer Platner, who, at the advanced age of 84, is in active practice and is health officer of Germantown, N. Y. Nineteen have died, of which number we have biographical records of seven and only notices of death of twelve. We have no records of the remaining twenty-four.

The class of '56 numbered sixty-five. We have biographical records of five who are living. Twenty-eight have died, of which number we have biographical records of eleven and only notice of death of seventeen. We have no records of the remaining thirty-two.

The class of '66 numbered fifty-two. We have biographical records of seventeen who are living. Sixteen have died, of which number we have biographical records of three and only notices of death of thirteen. We have no records of the remaining nineteen.

The class of '86 numbered forty. We have biographical records of twenty who are living. Six have died, of which number we have biographical records of three and only notice of death of three. We have no records of the remaining fourteen.

The class of '96 numbered fifty-one. We have biographical records of thirty-five who are living. Two have died, of which number we have biographical records of one. We have no records of the remaining fourteen.

NECROLOGY.

Since our last annual meeting I have received announcement of the following deaths:

- Jared Bassett ('39), at Evanston, Ill., May 10, 1905.
- Wilson T. Bassett ('44), at Cooperstown, N. Y., January, 1906.
- Abisha Shumway Hudson ('46), at Mt. Vernon, Ohio, October 9, 1905.
- John Dennison ('46), at De Witt, Iowa, 1903.
- Samuel S. Guy ('46), at Philadelphia, Pa., January, 1900.
- Ransom H. Vedder ('46), at Chatham Center, N. Y., August 12, 1905.
- Abram Van Wert ('46), at Visschers Ferry, N. Y., March 27, 1900.
- Jonathan Nichols ('48), at Los Angeles, Cal., January 17, 1905.
- James Henry Salisbury ('50), at Dobb's Ferry, N. Y., August 28, 1905.
- John Flickinger ('56), at Trumansburg, N. Y., June 22, 1899.
- S. T. Beardslee ('56), at Armada, Fla., 1898.
- Henry Van Wert ('56), at Ramertown, N. Y., February 10, 1898.

- George M. Beakes ('56), at Bloomingburg, N. Y., June 15, 1900.
 J. Henry Robinson ('56), at Southboro, Mass., March 11, 1904.
 Lorenzo Traver ('57), at Providence, R. I., October 24, 1903.
 John Yanney ('57), at Ephratah, N. Y., July 24, 1905.
 Lemuel H. Hammond ('58), at Waterbury, Conn., September, 1905.
 Ira P. Smith ('59), at Bath, N. Y., May 26, 1905.
 Norman B. Sherman ('61), at Marshall, Mich., December 22, 1905.
 William N. Bonesteel ('63), at Troy, N. Y., March 20, 1905.
 Levi Wood ('65), at Ephratah, N. Y., January, 1906.
 George Archie Stockwell ('66), at Houston, Tex., January 29, 1906.
 Adelbert D. Head ('66), at Syracuse, N. Y., January 21, 1906.
 George P. Johnson ('67), at Mexico, N. Y., July 17, 1904.
 Fordyce H. Benedict ('68), at Weedsport, N. Y., March 8, 1906.
 John Smithwick ('69), at Sharon, Mass., May 21, 1905.
 John U. Haynes ('72), at Cohoes, N. Y., March, 1906.
 Nathan F. Sweatman ('72), at Amsterdam, N. Y., February 18, 1905.
 Henry Giles ('74), at Albany, N. Y., June 5, 1905.
 James Duane Featherstonhaugh ('74), at Cohoes, N. Y., October 21, 1905.
 Clarkson C. Schuyler ('75), at Plattsburg, N. Y., August 16, 1905.
 Selwyn A. Russell ('77), at Poughkeepsie, N. Y., January 10, 1906.
 J. A. Smeallie ('79), at Cass Lake, November 25, 1905.
 William M. White ('86), at Amsterdam, N. Y., December 29, 1905.
 James Carr ('86), at New York City, December, 1905.
 Chas. Darius Rogers ('88), at Denver, Col., July 8, 1905.
 Rudolph Bestle ('88), at Hunter, N. Y., August 9, 1905.
 Charles E. Greenman ('89), at Troy, N. Y., April 25, 1905.
 William W. Clark ('94), at Maine, N. Y., July 12, 1905.
 Thomas G. Wright ('96), at Troy, N. Y., February 10, 1906.
 Amasa Parker Muir ('96), at New York City, June 2, 1905.
 Joseph Allen O'Neill ('97), at Cavite, P. I., January 24, 1905.

I also beg to submit the histories of the decennial classes and trust that you may find a perusal of the work of your classmates and friends interesting and encouraging.

Respectfully submitted,

EUGENE E. HINMAN,

Historian, A. A., A. M. C.

HISTORY OF THE CLASS OF 1846.

- HENRY A. ALMY. No record.
 JOHN D. ARNOLD. No record.
 HENRY G. BATES. No record.
 DIODORUS S. BEALS. No record.
 JEPHTHA S. BINGHAM. No record.
 DAVID E. BOSTWICK. Died at Litchfield, Conn., 1872.
 DANIEL D. BUCKLIN. Died at Lansingburg, N. Y., April 19, 1890.
 ELDRIDGE G. BUSWELL. No record.

I. W. CHESEBROUGH. No record.

GEORGE W. CHITTENDEN. Died at Janesville, Wis., May 28, 1899.

CONRAD J. CROUNSE. Died at Clarksville, N. Y., December 12, 1901.

JOHN DENNISON. Started practice at Alden, N. Y., at 30 years of age. Married about one year later to Miss Eleanor M. Farnsworth. After a good practice of twenty years he removed to DeWitt, Iowa, where he practiced twenty years longer then stopped. Since that time he traveled and enjoyed a quiet life until his death in 1903, at DeWitt.

HENRY D. DIDAMA. First located in Romulus, N. Y., and remained there five years. He then married Miss Sarah Miller and removed to Syracuse, N. Y., where he at once took a leading position and became conspicuous in the life of the city. In 1850 the Syracuse Medical School was founded and Dr. Didama was made professor of physiology and pathology. He was professor of the science and art of medicine in the Syracuse University Medical College from the time of its organization in 1872 and was its dean emeritus at the time of his death. He served as president of the New York State Medical Association and of the New York State Medical Society. He was vice-president of the American Medical Association and for thirty years has been a member of the British Medical Association, his reputation as a physician extending to the other side of the Atlantic. In his public addresses and through private efforts he endeavored to establish a high standard of medical education. He was a member of the Presbyterian Church and in politics a Republican. His wife died May 1, 1900, having survived all her three children. Dr. Didama died October 4, 1905, aged 82 years.

JOHN J. FLINT. Albany, N. Y. Died July 19, 1873, aged 73.

ELIAKIM R. FORD. No record.

CHARLES J. FOX. No record.

SAMUEL H. FREEMAN. After a long life-time of work in Albany, N. Y., he died March 15, 1906, aged 86. His work was that of the general family practitioner and was large and appreciated. Was at one time president of the County Medical Society and its representative in the State Society at a time when to be a delegate was a highly prized honor. He was an active worker in the Presbyterian Church and in many public activities.

STEPHEN V. R. GOODRICH. No record.

FRED S. GREENE. Died at Coxsackie, N. Y., September 30, 1891, aged 71.

SAMUEL S. GUY. Began practice at Brooklyn, N. Y., in 1846 and continued there until about 1890 when he went to California, where he remained several years. He was a general practitioner and was a man of a great deal of ability. His death occurred at Hahnemann Hospital, Philadelphia, Pa., January 2, 1901, at the age of 82 years.

MARTIN C. HALL. No record.

FORREST H. HARWOOD. No record.

CHARLES HOUSE. No record.

ABISHA S. HUDSON. Shortly after his graduation he located at Sterling, Ill., where he practiced with marked success for twenty years. He became very prominent in medical circles and his name became well known all over the United States. During the Civil War he served as surgeon of

the Thirty-fourth Illinois Infantry. In 1871 Dr. Hudson moved to Stockton, Cal., and later to Oakland in the same state. He was married May 2, 1853, and had one son, who has since died. In 1899 Dr. and Mrs. Hudson moved to Mount Vernon, Ohio, where he remained until his death, which took place October 9, 1905.

JEROME MILTON. No record.

JAMES KEELER, JR. Died at Bristol, Iowa.

CHRISTOPHER KIERSTED. Last known to be at 435 W. 23rd St., New York City. Made no response to inquiry of 1906.

SYLVESTER LEWIS. No record.

ALLAN C. LIVINGSTON. No record.

GEORGE LORILLORD. No record.

ROBERT S. MCCURDY. Last known at Minneapolis, Minn. Did not reply to inquiry of 1906.

ROBERT MORRIS, JR. Most of his professional life was passed in Ogdensburg, N. Y., where he died November 14, 1904, aged 96. He served as surgeon during the Civil War and was a surgeon of very large reputation in the neighborhood of his home. He retained all of his mental faculties until his death.

HENRY M. NEFF. No record.

DAVID W. PATRICK. Last known at Schuyler's Lake, N. Y. No answer to inquiry of 1904 and 1906.

RENSSELAER PLATNER. Is still in active practice at Germantown, N. Y., where he is also Health Officer. Dr. Platner first located at Taghkanic, Columbia county, N. Y., where he continued for twenty years. From there he moved to Clermont, N. Y., and practiced there for twenty years longer. In 1892 he again moved and started in practice at Germantown, N. Y., during which year he was appointed Postmaster, which post he held four years. He is now Health Officer of the town and active at the age of 84. His wife is dead and he has one son and a daughter living.

JAMES H. READ. No record.

CHARLES H. ROBERTS. No record.

FRANCIS H. SIMPSON. No record.

JOSEPH H. SMITH. Died at Plattsburg, N. Y., October 4, 1899.

JOHN SWINEBURNE. Practiced as a surgeon of very large reputation in Albany, N. Y., where he conducted a private hospital until his death, March 28, 1889, aged 68.

HOWARD TOWNSEND. Dead. No other record.

ABRAM VAN WOERT. Began practice in partnership with Dr. Boughton of Middletown, N. Y. From there he went to Pittstown, N. Y., where he practiced until 1849. He then spent three years in California and returned to practice in his native village, Visscher's Ferry, N. Y., and remained there the rest of his life. He died March 27, 1900, aged 78 years.

RANSOM H. VEDDER. After a year of practice with Dr. Roberts, an eminent physician of New York, he located at Chatham Centre, N. Y., where within a few months of fifty years he had an extended practice. He was a respected member of the Columbia County Medical Society and at one time its president, and was also a member of the Holland Society.

He was married to Miss Emily Leach in 1854 and is survived by a son and daughter. Dr. Vedder died August 12, 1896.

JOHN S. WEIDMAN. Died at Etna, N. Y., December 20, 1865.

Respectfully submitted,

E. E. HINMAN,

Historian, A. A., A. M. C.

HISTORY OF THE CLASS OF 1856.

W. E. ALLEN. Began practice soon after graduation in Pike county, Pa. He soon moved to Hyde Park, Pa. (now Scranton, Pa.), where he continued until his death, August 25, 1903. During the Civil War he served in the medical department at Fortress Monroe and at Philadelphia, resuming practice at the end of the war. Besides acting as physician and surgeon to several large hospitals he was appointed, in 1886, health officer and filled the position for fifteen years and was then appointed Commissioner of Public Health, serving one year. He is survived by his wife and daughter.

WILLIAM ARTHUR, JR. No record.

CHARLES E. BATES. No record.

GEORGE M. BEAKES. Began practice at Bergen Point, N. J. In 1857 located at Burlingham, N. Y., remaining there until September, 1861, when he was appointed assistant surgeon of the First New York Cavalry; served with that regiment until 1863 when he was promoted to surgeon assigned to the 141st N. Y. Vols.; was mustered out in June, 1865, and returned to Burlingham. In 1870 he removed to Bloomingburg, N. Y. He was health officer of that town and was member of Assembly for Sullivan county in 1891 and '92. He died June 15, 1900.

S. F. BEARDSLEE. He located at Armada, Fla., in 1857 and followed his profession until 1896 when his health failed. After a lingering sickness of two years he died in 1898, leaving a wife and two sons. He was married in 1876 to Miss McCauley of Richmond, Va.

ISAAC S. BECKER. First located at Berne, N. Y., and there practiced until 1891; moved to Altamont, N. Y., and is there at the present time and very successful. Was married in 1860 to Miss Kate E. Shultes. Was health officer of Berne and also of Altamont.

HENRY J. BENNETT. No record.

TRUMAN S. BRINCKERHOFF. Died September 3, 1888. No other record.

ALFRED H. BRUNDAGE. Began practice in Delaware county, Ohio, and remained there until 1861. Entered United States service as assistant surgeon, Thirty-second Ohio Infantry; was promoted surgeon in 1863; served as member of operating board, Third Division, Seventeenth Army Corps, during Vicksburg and Atlanta campaigns; located at Xenia, Ohio, in 1865. Married Miss Frances H. Trall of Berkshire, Ohio, by whom he is survived.

JOHN CIPPERLEY. First located at Middle Falls, N. Y., and remained there twenty-five years. Then he removed to Greenwich, N. Y., where

he is still in active practice. Writes that nothing out of the ordinary has happened to him.

JEROME R. COLLINS. Last known at Leavenworth, Ind. No reply to inquiry of 1906.

JEREMIAH A. CROSS. Died at Newark, N. J., March 30, 1881.

LEMUEL CROSS. Spent first two years in obtaining experience for future work and two more in giving public lectures on hygiene. In 1860 located in Cobleskill, N. Y., where he is now in practice. He was appointed by Governor Morgan an examining surgeon of the draft; examined nearly three thousand subjects. Has been married three times.

ALBERT C. DEDRICK. He first settled in the village of Crompton, R. I., and married there Sarah Abbott. In 1862 he was commissioned assistant surgeon, Fourth Regiment, R. I. Infantry, and served until November, 1864; resumed practice at Crompton and Centreville, R. I. Represented the town of Warwick in the State Legislature in 1872-3-4. He was active in the state medical circles and held many positions of trust in his town. Pneumonia suddenly cut short his active life and he died April 16, 1889, aged 58.

H. H. DUBOIS. Died at Watertown, Conn., April 11, 1891, aged 59.

HENRY M. EDSALL. Died at Worthborough, N. Y., in 1876.

OBEDIAH T. ELLISON. No record.

E. LEE ENSIGN. Located in McDonough, N. Y., March 20, 1857, and practiced there until 1880, when he relinquished practice for five years to regain lost health. He then resumed practice at Oxford, N. Y., remaining there a few years and again moved to Erieville, N. Y., where he remained until his death, which occurred December 3, 1903, after an illness of six months from heart and stomach trouble. Married in 1859 and had three children.

EDWARD A. EVERITT. Died at Burlington, Vt., December, 1904, aged 72.

JOHN FLICKINGER. Was born in Seneca county, September 18, 1831, and spent his early life upon a farm. He first located for medical practice at Milo Centre, N. Y., remaining there a few months, moving to Seneca county and remaining there until 1870. He served as assistant surgeon with the First Division of the Army of the Potomac at Alexandria, Va. In 1870 he moved with his family to Clinton, Iowa, and lived there until 1874. In 1874 he again returned east and took up his residence and practice at Trumansburg, N. Y., where he remained until his death, which occurred June 22, 1899. Was a member of county and state medical societies.

EDWARD J. FRISSELLE. No record.

P. J. GALLOWAY. No record.

BENJAMIN P. GRINNELL. No record.

J. J. HARRIS. No record.

JOHN B. HARTWELL. Died at Woodmere, N. Y., June 23, 1902.

L. B. HEALEY. Died February, 1880. No other record.

CHARLES E. HEATH. Died at Lee, Mass., October 5, 1887, aged 57.

LEWIS W. HODGKINS. Last known at Ellsworth, Maine. Did not reply to inquiry of 1906.

HARVEY A. HORTON. Died as result of railroad accident. No other record.

DELOS W. HUNT. No record.

URBAN JANSEN. No record.

HAMMOND JOHNSON. No record.

JAMES A. JOHNSON. No record.

J. RUSSELL LITTLE. No record.

H. W. LOBDELL. Last known at Flat Rock, Mich. No reply to inquiry of 1906.

THOMAS LOCKROW. No record.

JOHN McALLISTER. No record.

HENRY McKENNAN. No record.

HENRY G. McNAUGHTON. Died at his home in Albany, N. Y. in April, 1898.

ALVARADO MIDDLEDITCH. Located at Waterloo, Iowa, soon after graduation. Remained there in active practice forty-seven years, making a specialty of chronic diseases and meeting with a great deal of success. Married Miss Pauline Griffith soon after graduation and has one son and a daughter. In the fall of 1903 moved to Pasadena, Cal., where he now resides.

JOHN N. MILLER. Died at Poughkeepsie, N. Y.

R. V. K. MONTFORT. Located at Newburg, N. Y., immediately after his graduation; was elected superintendent of schools in 1859; resigned in 1862 to accept a commission as assistant surgeon of the 124th N. Y. Vol. Infantry; was mustered out of service June, 1865, at the close of the war as surgeon. In 1866 he was appointed as the first health officer of Newburgh and served four years. In 1872 he was again appointed superintendent of schools and served continuously until 1883; in 1887 again appointed and served until about 1898. Was married in 1861 and again in 1864 and has had three children. Dr. Montfort was a prominent member of the Orange County Medical Society as well as several army societies. He died at Newburgh December 18, 1900.

CHARLES M. MOSHER. Died at Graysville, Ga., June 18, 1894.

WOLCOTT W. PAIGE. No record.

RUFUS PALMER. No record.

CASTANUS B. PARK. Died at Des Moines, Iowa, August 22, 1892.

P. GOULD PARKER. No record.

C. M. PIERCE. Died at Warrington, Fla., October 11, 1878.

SAMUEL A. RICHARDSON. No record.

CHARLES S. RICHARDSON. Died at Cortland, N. Y., a short time after his graduation, a victim of consumption.

AARON W. RIKER. Fenton, Mich. No reply to inquiry of 1906.

J. HENRY ROBINSON. Began practice in Southboro, Mass., in 1857 and remained there in practice until 1896 when he retired. The doctor was a quiet, unobtrusive man but very ambitious and always had a large country practice. He was married and had two sons, both of whom were drowned, his wife being his only survivor. He died March 11, 1904, aged 74.

CHARLES W. ROBINSON. No record.

EDWARD B. ROOT. After graduation located in West Stockbridge, Mass., where he remained six years. He then entered the service of the government as contract surgeon and for a short time was stationed at David's Island, near New York City. From there enlisted as assistant surgeon in 168th N. Y. Infantry, remaining with that regiment until mustered out, then locating at Painesville, Ohio, where he is still living in active practice. He writes that his poor ability as a collector has kept a great deal more to his credit than he wishes.

ROBERT H. SABIN. Began practice at Poestenkill, N. Y. In 1860 he removed to West Troy, N. Y., where he resided until his death, which occurred on December 4, 1888. He was a member of the Masonic fraternity of Troy and of the Reformed Church of West Troy. He was survived by his wife and one son, who, also a graduate of our college, is in active practice in Watervliet, N. Y.

ARNOLD STROTHOTTE. Left for Europe immediately after graduation, attending universities at Wurzburg, Vienna, Prague and Berlin until 1858. Settled in Newport, Ky.; early in 1861 entered Union Army as surgeon of the 23rd Regiment, Kentucky Vol. Infantry; left army at end of 1862 on account of ill health; moved to St. Louis, Mo., where he was still living when last heard from. He married in 1860 Miss Anna Grazer of Cincinnati. Did not reply to inquiry of 1906.

GEORGE B. TODD. Is reported to have died at the U. S. Navy Yard at Pensacola, Fla., of yellow fever. No date obtained. Held rank as acting passed assistant surgeon, U. S. N.

JOHN VAN BUREN. No record.

SAMUEL D. VAN SCOY. No record.

H. VAN TUYL. No record.

HENRY VAN WERT. First located at Pittstown, N. Y., where he remained until 1870. From there he went to Raymertown, N. Y., and practiced there until he died, February 10, 1898, aged 67, of Bright's disease. He married April 2, 1864, Miss Martha J. Russell and had three sons, only one of whom survives him. Dr. Van Wert at one time served as health officer and justice of the peace.

JACOB VREELAND. No record.

FLEMING WEBSTER. No record.

JOHN P. WHEELER. Died about 1864. No other record.

GEORGE A. WILKINS. No record.

Respectfully submitted,

E. E. HINMAN,

Historian, A. A., A. M. C.

HISTORY OF THE CLASS OF 1866.

JAMES L. ALLABEN. Practiced for many years at Margaretville, N. Y., where he died June 11, 1890.

RUSSELL G. ANDREW. Located at once at Neversink, N. J., his home town, where he is still in active practice. Married in 1867 Miss Susie E. Johnson of Neversink. He had two children both of whom are living.

CHARLES B. BARBER. Soon after graduation commenced practice in Bloomingdale, N. Y. He was there four years then went to Black Brook, Clinton county, N. Y., where he remained six years. His next move was to Keesville, N. Y., where he is now located but is doing very little work on account of poor health.

HARVEY W. BELL. Died at Hatton, Miss., February, 1897.

HENRY W. BOORN. Soon after graduation located at Schenevus, N. Y., where he is still enjoying a good practice. He has been active in the Otsego County Medical Society and is now its secretary, a post that he has filled for 15 years. He has been actively interested in educational matters and has been a member of the board of education for 20 years. Was married in 1886 to Miss Kate A. Lane, and has two sons.

HENRY W. BOYNTON. First opened his office for practice at Laporte City, Iowa, in 1867, remaining there until the fall of 1870. He then moved to Toledo, Iowa, where he still practices. Was married while at LaPorte City to Miss Ida Elwell. Has been president of his county medical society, a member of the county board of commissioners of insanity, county physician and a member of the Toledo Board of Health. He is U. S. Pension examiner and examines for the leading life insurance companies.

DAVID S. BRADFORD. Last known at Janesville, Iowa. No reply to inquiry of 1906.

WILLIAM A. BROWN. Dead.

ARTHUR H. BURGER. Last known to be at Ballston Spa, N. Y. No reply to inquiry of 1906.

WILLIAM G. BURNHAM. No record.

OVID L. BUTTS. Died early in his practice at Broomeville, N. Y.

HENRY A. CLARK. No record.

ALBERT V. D. COLLIER. Last known at Coxsackie, N. Y. Did not reply to inquiry of 1906.

HENRY A. CRARY. After graduation he opened an office in Albany, where he practiced for a time, being made ward physician. Later he removed to Closter, N. J., where he practiced until the spring of 1876 when he returned to Albany, occupying the house of Dr. Swinburne. The following spring he again returned to Closter, N. J., where he continued to practice until 1892. On account of failing health he then moved to Knox, N. Y., at which place he practiced until obliged to abandon work on account of illness which resulted in his death December 25, 1903. Dr. Crary was married and had three children.

WILLIAM H. DELONG. Located at Salisbury Corners, Herkimer county, N. Y., and resided there for two years. From there he moved to Equinunk, Pa. After a severe illness, in 1873, he again moved, this time

to Emporium, Cameron county, Pa. There he opened a drug store and did mostly an office practice. In 1884 an attack of pneumonia compelled him to go to Florida for the winter, recovered and resumed practice for two years longer when another pneumonia compelled him to remove to Florida permanently. He is doing some general practice at his home in Emporia, Fla., and in fair health at 66 years of age. He is married but has no children.

EDWARD J. DICKINSON. Is in practice at Corydon, Iowa.

ISAAC FOWLER. No record.

EZEKIAL W. GALLUP. Soon after graduating located in Stamford, N. Y., where he is still in active practice. In 1864 married Miss Jennie Rowley of Jefferson, N. Y. Has had one son who served as chaplain during the Spanish-American War. Dr. Gallup has been fairly successful both professionally and financially. Has served as coroner, president of Delaware County Medical Society and Stamford village, was for many years a member of the board of education, and has been actively interested in church circles.

BENJAMIN D. GIFFORD. Last known to be in Boston. Did not reply to inquiry of 1906.

CHARLES S. GRANT. Died at Saratoga, N. Y., February 6, 1899, aged 53.

ALLEN C. GROVER. Practiced for a number of years at Port Henry, N. Y. He is reported to have died during the year of 1900.

CHARLES S. HAZELTINE. On leaving Albany went to New York City for post-graduate work, and the following winter was appointed attending physician to the Lying-in Hospital at Buffalo, N. Y. Then went to Jamestown, N. Y., and practiced for a year and a half. Results not being satisfactory he closed business and went into retail drug business which was successful. In 1874 he sold out his business and established a wholesale drug business in Grand Rapids, Mich., which is now developed into large proportions and is managed under the name of Hazeltine & Perkins Drug Co. In 1893 was appointed by President Cleveland as United States Consul at Milan, serving in that capacity for two years. Is also vice-president of a national bank at his home city, is married with a grown up family of four children and is a grandfather.

GUY HOLBROOKE. Is supposed to be at Lowell, Mass. No reply to inquiry of 1906.

WILLIAM H. HULL. Died at Poestenkill, N. Y., about 1893.

PETER H. HULST. Immediately after graduating began practice in Schuylerville, N. Y. Two years later moved to Greenwich, N. Y., where he is still in practice. He has been married three times and has several children. Has had the usual ordinary life of a country doctor.

JAMES L. HUMPHREY. Last known at Saratoga, N. Y. No reply to letter of 1906.

ENOCH E. JOHNSON. No record except a report that he is dead.

JOHN W. JOHNSON. No record.

OTHO S. KNOX. Reported to have died at Waterloo, Iowa, in 1894, where he had practiced for many years.

SYLVESTER D. LEWIS. Last known at Syracuse, N. Y. No reply to inquiry of 1906.

EDWARD S. MAY. Last known to be in the Treasury Department at Washington, D. C. No reply to inquiry of 1906.

JAMES F. MCKOWN. Began practice soon after graduation in Albany, N. Y., where he remained all his life in general family practice. Was married and his son is now in medical practice in Albany at the old family home. Dr. McKown died Aug. 25, 1892, aged 48.

DANIEL MERVILLE. No record.

ISAAC T. MONROE. First settled in practice at West Pawlet, Vt. In 1874 he went to Granville, N. Y., where he resided and practiced until his death, which took place December 30, 1901, of broncho-pneumonia. In 1874 he married Miss Ada Burch of West Pawlet who survives him with one daughter. He was a careful and earnest worker and greatly missed in the community.

JAMES F. MURRAY. Resided at Gloversville, N. Y. Is reported to be dead.

PHILIP C. NEHER. Died March, 1893. He practiced many years at Nassau, N. Y.

ALBERT S. NEWCOMB. First located at Centre Brunswick, N. Y., where he was well received and successful in practice. Moved from there to Troy, N. Y., where he made a specialty of life insurance examinations. While there was also attending physician to Troy Orphan Asylum and held commission as surgeon, National Guard of the State, from 1868 to 1872. In 1875 he moved to New York City, where he has been in general practice ever since. From 1881 to 1887 was medical officer to U. S. Postoffice there. From 1887 to 1892 was examining physician for the Department of Charities and Corrections for New York City and in that time there were admitted to the public hospitals on his diagnosis more than 150,000 destitute sick. From 1892 to 1899 was medical inspector for the Mutual Life Insurance Company and in that time visited all of the principal cities of the United States and investigated and rated each of their examiners in all of the states east of the Rockies, in all more than ten thousand doctors.

DANIEL V. O'LEARY. Began practice in Albany in the spring of 1867. Was married in 1878. Has three sons, the oldest being a graduate of the A. M. C. class of 1904 and is in practice with his father. Has been very successful as a general practitioner and is still actively at work.

DARIUS S. ORTON. Immediately entered upon the practice of medicine at Northampton, N. Y., and is still there in practice. Was appointed pension examiner in 1869 and held office until 1884. Has always been an active Republican and has taken a prominent part in Masonic affairs. Served four terms as coroner of Fulton county. Has been president of his county medical society and has been a permanent member of the State Medical Society since 1880. Was married July 18, 1868, to Miss Anna M. Austin and has had five children, one of whom died. Is also an active worker in the Presbyterian Church. Has been successful and is well.

GEORGE H. OVERHOLT. After graduation in 1866 went to Canada and practiced there until 1870 when he moved to Minnesota. He is now located at Kenyon, Minn., and makes a specialty of electrical and X-Ray treatments.

CLAIR S. PARKHILL. Spent the first six years of practice in the town of Howard, N. Y., in partnership with his brother. Moved to Hornellsville, N. Y., in September, 1873, and has been practicing medicine and surgery there ever since. Has been successful and is now beginning to relax his hard work a little.

TRUMAN E. PARKMAN. Died October 24, 1904, at Rock City Falls, N. Y., where he had practiced for many years prior.

HENDERSON A. PHILLIPS. Died August 19, 1877. No other record.

ISAAC E. RANDALL. Located at West Bay City, Mich., January 19, 1867, and has never moved. He attended Bellevue Hospital Medical College in '72 and '73 and graduated. Was married in 1869 and has three children. Is president of the local board of pension examining surgeons and local surgeon for the Grand Trunk and Michigan Central railroads, and feels that he is good for twenty years more of work.

THOMAS O. REYNOLDS. Last known at Kingston, N. Y. No reply to inquiry of 1906.

GEORGE W. ROSSMAN. Is doing a successful practice at Ancram, N. Y.

GEORGE A. STOCKWELL. Last known at Brooklyn, N. Y. No reply to inquiry of 1906.

URIAH J. SWAIN. No record.

ANTHONY P. TEN EYCK. Married shortly after graduation and practiced successfully for many years at Bloomingrove, N. Y., where he died February 4, 1893.

JOHN C. WHITE. Last known at Port Chester, N. Y. No reply to inquiry of 1906.

GEORGE O. WILLIAMS. Commenced practice at Smithville Flats, N. Y., on March 27, 1867, and remained there six years. From there he removed to Greene, N. Y., and is still there in active practice. He is married and has three children.

CHARLES E. WITBECK. First located in Cohoes, N. Y., where he is still in active general practice and very successful. Has been health officer seven terms, is president of the Cohoes Hospital Staff and of the Training School for Nurses and is the dean of the profession in that city. Was married in 1872 and has one son, also a graduate of our college who is associated with him in practice.

Respectfully submitted,

DANIEL V. O'LEARY,

Class Historian.

HISTORY OF THE CLASS OF 1886.

GEORGE H. BAKER. First located in Eatontown, N. J., and remained there until 1892 making a fair living and then moved to Long Branch, N. J., about five miles distant. He is still there enjoying a good practice. He is a member of the State, County and District medical societies and last year was president of the Alumni Association of Greater New York. Served as a member of the board of health for four years, the last year

as its president, and is at the present time president of the Long Branch Board of Trade. Has never mingled in politics.

JOSEPH E. BAYNES. Was last known to be in practice in Troy, N. Y. No reply to inquiry of 1906.

ADAM J. BLESSING. Has built up a successful practice in Albany, N. Y. Is married.

WILLIAM P. BRIERLEY. After graduating remained with Dr. Swinburne of Albany two years. In March, 1888, went to Kansas City, Mo., but soon returned to Albany where he is still doing a successful family practice. Is married and has three sons.

ALFRED L. BROWNE. Started in practice at Cornwall-on-Hudson, N. Y., where he died May 3, 1898.

WILLIAM B. CAMPEELL. Started in practice in Albany, N. Y., but after a year moved to Garratsville, N. Y., where he remained over thirteen years, moving from there to Edmeston, N. Y., where a good paying general practice has developed. Is married and has one daughter.

ARTHUR T. CAPRON. Has always practiced in Albany, N. Y., where he is at present.

JAMES CARR. For a great many years after graduation was connected with a pharmaceutical manufacturing house in New York City. He died December, 1905, of pneumonia.

JAMES A. CLYNE. First located at Joliet, Ill. At the end of his second year there was appointed surgeon of the Chicago and Alton Railroad, which position he held many years. In the autumn of 1891 was married. In 1893 was appointed health commissioner for two years. Did not reply to inquiry of 1906.

EUGENE H. COONS. Last known at Gloversville, N. Y. Did not reply to inquiry of 1906.

JOHN A. CUTTER. Has been located in New York City ever since graduation except while away for a few months of special study. Gives special attention to the treatment of chronic diseases. Was married but lost his wife in 1896. Has never remarried.

WILLIAM H. DELAMATER. Last known at Mariaville, N. Y. No reply to inquiry of 1906.

NOAH L. EASTMAN. Began practice in Albany, N. Y., very soon after his graduation where he continued in general family work until his death, which occurred October 23, 1905. He was married and had one child.

ELMER E. FINCH. First practiced in Watervliet, N. Y., one year as assistant to Dr. Orson Cobb. From there he moved to New York City and remained one year. Leaving New York he moved to Schodack Centre, N. Y., where he still practices. He was married in 1893.

JOHN F. FITZGERALD. After a term of service as interne at St. Peter's Hospital entered the state service as assistant physician at the Binghamton State Hospital where he remained, passing through the various grades until 1893 when he was appointed superintendent of the Rome State Custodial Asylum, remaining such until 1902 at which time he was transferred to the position of general medical superintendent of the boroughs of Brooklyn and Queens in the Department of Public Charities, where he is at present. Is married and has two children.

ALFRED K. FREIOT. Was last known to be in Troy, N. Y. No reply to inquiry of 1906.

HERMON C. GORDINIER. Has a very large practice in Troy, N. Y. He has made a specialty of physiology of the nervous system and has published a book on the subject. Is a member of the faculty of the college in that department.

ALFRED H. HOADLEY. After serving as interne at the old Albany Hospital went directly to Northampton, Mass., where he is doing a general practice. He serves on the surgical staff of the hospital at that place. Is married and has two boys.

JAMES A. HOLLEY. First located at Delancy, N. Y., and remained there about six months. From there he moved to Walton, N. Y., where he is still doing a general practice. Has prospered and is successful in his profession. He is married but has no family.

DAYTON L. KATHAN. Remained in the Albany Hospital for eighteen months and then located at Schenectady, N. Y., where he has been continuously in general practice ever since. He is married and has one son.

ARIE V. KLOCK. Was last known at Ames, N. Y. No reply to inquiry of 1906.

WILLIAM H. LEMROW. Died at New York City May 17, 1897.

HARRY M. LINCOLN. Began practice at Wilton, N. Y., soon after graduation and is still there in general work. Was supervisor of the town in 1891 and 1892. He has been health officer for a number of years. He lives with his mother, never having married.

CHARLES B. MALLERY. In 1896 was in practice in Corinth, N. Y., from which place he wrote that he was having good success. He is said now to be in Aberdeen, South Dakota, but did not reply to inquiry of 1906.

RICHARD H. McCARTY. Began practice in Schuylerville, N. Y., remaining there seven years and then moved to Saratoga, N. Y., where he is at present. Was coroner of Saratoga county for eighteen years, town doctor of Schuylerville for seven years and is now town physician of Saratoga. He has been active in Republican politics. He has a private hospital and is enjoying a first-class practice.

FRANCIS T. McINTOSH. First located in Troy, N. Y., where he remained until his death, which took place May 5, 1901. He served for several years as district physician faithfully doing his duty in spite of the ravages of pulmonary tuberculosis.

WILLIAM McNAUGHTON. Practiced for years in West Troy, N. Y. Did not reply to inquiry of 1906.

JOSEPH S. PARENT. First located for practice at Birchton, N. Y., this address has, since the advent of rural free delivery, been changed to Ballston Spa, R. F. D. No. 2., N. Y., where he is still in general practice.

RANSOM J. PERRY. Last known at Key West, Fla. No reply to inquiry of 1906.

JAMES H. REILLY. Spent the first six years in Rutland county, Vt. In 1894 accepted the position of medical examiner for the Metropolitan Life Insurance Company at Memphis, Tenn. Is now examiner in chief for this place with five assistants. Is married and has two children.

JOHN A. ROBSON. Has been in practice at Halls Corners, N. Y., and immediate vicinity ever since graduation. He is married and has three children.

J. WESLEY SHEFFIELD. In 1896 was in practice at Sidney, N. Y. Later advices report him to be located at present at Binghamton, N. Y. No reply to inquiry of 1906.

WELLINGTON G. STEELE. Began practice at Mongaup Valley, N. Y., where he is still in active practice. He was married in 1889 and has four children.

ARTHUR D. STOWITZ. Last known to be at Sidney, Neb. No reply to inquiry of 1906.

EDWARD H. TAFFT. Last known at Adams, N. Y. No reply to inquiry of 1906.

ADRIAN P. VAN DEINSE. In 1896 was enjoying a good practice at Sayville, L. I. No reply to inquiry of 1906.

CHARLES T. WALTON. Last known at Port Henry, N. Y. No reply to inquiry of 1906.

STEPHEN H. WEBSTER. Spent one year after graduating in post-graduate study in New York City. He spent the year 1889 in Europe. Was married and practiced in Troy, N. Y., until his death, which occurred January 6, 1899.

WILLIAM M. WHITE. Began practice soon after graduation in Amsterdam, N. Y. In 1890 he came into the practice of his father who died. Was at various times secretary, treasurer and president of the Montgomery County Homeopathic Medical Society and one of the Board of Censors of the State Homeopathic Society. He died December 29, 1905, aged 50.

RICHARD A. WOODRUFF. Soon after graduating located in Spottville, N. Y., where he remained until 1889. The next few months were spent in travel. In December, 1889, located at Philmont, N. Y., and remained there until 1900. The next year was devoted to special study at Johns Hopkins Hospital with a few months preparatory work under Dr. Blumer at Albany. In August, 1901, located at Pittsfield, Mass., where he is at work. He has the supervision of the pathological work at the hospital in that city and is the medical examiner of the board of health. Was married in 1896 and has one son.

Respectfully submitted,

W. P. BRIERLEY,

Class Historian.

HISTORY OF THE CLASS OF 1896.

SANFORD BESSLER. Is in practice at Joliet, Ill. He writes that he has been in poor health since 1896 and has had to eliminate all charity work.

ALBERT C. BAXTER. Is said to be in practice at Scriba, N. Y. No reply to inquiry of 1906.

JULIUS W. BLAKELY. Is said to be in practice at Meridale, N. Y. No reply to inquiry of 1906.

WILLIAM I. BRANDOW. No record.

JOHN P. CARVER. First located at New Hartford, Conn. During his third year there he was married to Miss Eno of Limsbury, Conn. In 1900 he moved from New Hartford and took a year's post-graduate course, returning to Limsbury, where he has continued in general practice ever since. He has two daughters.

FREDERICK T. CLARK. Immediately after graduation was appointed interne at the State Hospital at Poughkeepsie, remaining there until September first, when he resigned and was appointed house officer at the Albany Hospital. After a year's service at Albany resigned to accept another appointment at Poughkeepsie as junior assistant physician. He remained there two years and a half, becoming interested while there in the treatment of diseases of the nose, throat, eye and ear, which specialty he is now following. After spending a few months in study in New York he opened his office at Westfield, Mass., his native city. He is now attending specialist at Noble Hospital and Shurtleff's Children's Home. He married in June, 1902, Miss Emily Rogers of Milwaukee, Wis.

WALTER M. CLARK. Shortly after graduation was appointed interne at the Matteawan State Hospital where he has remained and is now second assistant physician. In 1904 married Miss Edith Simpkins of Ticonderoga, N. Y. Has one child, a daughter.

EDWARD J. COLLIER. Is in practice at Amsterdam, N. Y. Did not reply to inquiry of 1906.

JOHN J. DEVER. Is in practice at Glens Falls, N. Y. Did not reply to inquiry of 1906.

FRED B. DEZELL. Soon after graduation opened his office in Lynn, Mass., where he has a large practice. Confines himself to general medical work. He is medical inspector for the city schools. Is a member of several medical societies. Was married April 10, 1901, to Miss Minnie Haines of Colliers, N. Y.

RUDOLPH DEIDLING. In the fall of 1896 was appointed physician at the Reformatory at Elmira, N. Y., which position he held until 1898, going from there into active practice at Saugerties, N. Y., where he still remains. Is at present surgeon for the Alsen American Portland Cement Company, the American Ice Company and the Catskill Cement Company. Was married January 2, 1900, and has a son and daughter.

HARRY O. FAIRWEATHER. After graduation served one year as interne in the Saratoga Hospital. Spent the following year in post-graduate work at Baltimore, Md.; returned to Troy, N. Y., and served as assistant pathologist in Troy Hospital. He opened his offices in the spring of 1899 in Troy and devotes himself to the diseases of the throat and nose. Is attending specialist to the House of Good Shepherd and St. Vincent's Asylum and assistant on the staff of the Troy Hospital. Is assistant surgeon in the National Guard, ranking as first lieutenant, and a member of the Association of Military Surgeons of the United States. He is unmarried.

ARTHUR E. FALKENBURY. After graduating remained in Albany one year and then opened an office in New York, remaining there until January 4, 1900, when he located in Whitehall, N. Y., where he is now

in general practice. Has met with good success, is married and has one daughter.

HENRY FIELD. After practicing a short time at Cold Brook, N. Y., he removed to Marathon, N. Y., where he is now in general practice. Has been married and has two boys. He is a trustee of the Methodist Church, health officer of the town and a member of the Board of Education.

LELAND L. FILLMORE. After leaving college was interne at the Albany Hospital until May, 1897, when he married Miss E. Josephine Moore of Bennington, Vt., and a few months later went to Sheffield, Vt., where he remained two years and a half. He then returned to Bennington where he practiced until November, 1904. During that time held office of village president for one term. Owing to his wife's poor health he moved to Los Angeles, Cal., but has not been in active practice.

JOHN C. FUSMER. Was last known at Palatine Bridge, N. Y. No reply to inquiry of 1906.

EDWARD GILLESPIE. After graduating went directly to Binghamton State Hospital. He has continued in the service and is now assistant physician. Was married November 20, 1902, to Miss Rose Curran of Binghamton. He has no family.

GEORGE B. GRADY. Located in Watervliet, N. Y., soon after graduation and is still there in general practice. He has served as health officer for two terms.

IRA D. HASBROUCK. Is doing a general practice at Washington, R. I. He is married but mentions no family.

FRANK A. HENNESSY. Last known at Westport, N. Y. No reply to inquiry of 1906.

IRVING HOLLEY. Worked for the first fourteen months after graduation at the Marshal Sanitarium, Troy, N. Y. He then moved to Watervliet, N. Y., remaining there four months. He was appointed to service at the Manhattan State Hospital, New York City, where he remained for two years, at which time he was transferred to Willard State Hospital where he is now located. He writes that he is single, has learned to swear and use tobacco but has never written for the medical press.

JOHN W. JENNINGS. First located at Fly Creek, N. Y., but now lives at East Springfield, N. Y., and is doing a good practice. He has been married seven years and has one son.

GARRETT V. JOHNSON. Began practice in Oneonta, N. Y., where he stayed until 1898 when he went to the front at the outbreak of the Spanish War, being a member of Co. G, First Regiment, N. G. N. Y. On October 6, 1898, was sent from Honolulu, H. I., to Washington, D. C., on detached service; was mustered out of service February, 1899. He then located in Schenectady, N. Y., where he is doing a fine business. He is married and has one daughter.

HENRY W. KEATER. He is located at Griffins Corners, N. Y., and is doing a good business. He is married and has one son.

FRANK A. KELLER. January, 1897, started from Toronto, Canada, for China, reaching Shanghai March 4th. After studying the language was sent to the province of Hunan and began the work of a medical missionary.

At that time there was not a single missionary in that province numbering over twenty million people. In March, 1899, was driven from his station by rioters, losing everything. A few months later was re-established in Hunan by the kind offices of the Governor of Hunan. In June, 1900, was once more driven out by the Boxers, and for two weeks in great peril. He was next sent to Chefoo, in North China, to take charge of a large hospital there and relieve the missionary in charge, who was ill. He spent seven months there and then again returned to Changsha, the capitol city of Hunan, where he did a very extensive work as a pioneer. In November, 1902, was married to Miss Tilley of Toronto, the ceremony being performed at Shanghai. In August, 1905, they sailed for home and is now in Philadelphia taking a post-graduate work at the Polyclinic preparing for another term of work in China.

FRANK B. MAYNARD. Soon after graduation began practice at Brockport, N. Y., and removed to Rochester in 1899 where he is now doing general practice.

JAMES T. MCKENNA. Is in practice in Troy, N. Y., where he gives special attention to expert work in court as specialist in insanity and nervous disorders. He is married and has three children.

FRANK McLEAN. He first located at Tunnel, N. Y., but soon removed to Chenango Forks, N. Y., where he has since been. He also owns and runs the local drug store. He is married and has three children.

AMASA PARKER MUIR. Immediately after graduation was appointed to a position at Manhattan State Hospital, serving there for a number of years. He then took up his residence in New York City where he was making a good record. At the time of his death he was an officer of the New York City Alumni Association.

PARKER MURPHY. Began practice at his present address, Rochester, N. Y., and is doing well. He is married and has "less than ten children."

FRANCIS P. O'BRIEN. Last known at Fort Edward, N. Y. No reply to inquiry of 1906.

ELBERT A. PALMER. Is in practice at Saratoga, N. Y.

EDWARD J. PARISH. Last known to be in New York City. No reply to last inquiry and postal authorities advise that he is not in the directory.

FRANCIS X. PIDGEON. Was last known at 467 Hudson street, New York City. No reply to inquiry of 1906.

ALBERT H. RODGERS. Was house physician at Albany Hospital until 1897. He then took a course in Homeopathic treatment, graduating May 5, 1898, from the New York Homeopathic Medical College and Hospital. He is now located at Corning, N. Y. Was married December 12, 1901, to Miss Mary Stoneman of Albany.

THOMAS AVERY ROGERS. Located in Plattsburg, N. Y., in 1896 and has remained there in general practice. The Clinton County Medical Society elected him president in 1901 and he has been for the past two years secretary of the Physicians' Club. Was recently elected member of the House of Delegates of the State Medical Society from Clinton County Society. He was married in 1902.

WALDO SANFORD. After graduation served a term at St. Peter's Hospital. From there he went to Brewsters, N. Y., and remained for about two and a half years. While there he was married to Miss Hannah Hamlin of Albany. He is now located at Saratoga, N. Y.

WILL H. SWARTZ. Soon after graduating located at Colton, N. Y., where he is still at work. He is married and has two children.

JESSE M. W. SCOTT. First served one year as medical interne at Matteawan State Hospital; the following year as resident interne at Albany Hospital; July, 1898, to April, 1899, junior assistant physician at Matteawan State Hospital; April, 1899, to February, 1902, assistant physician, and February, 1902, the last year, as acting superintendent. He is now located at Schenectady, N. Y., doing general practice. He was married March 15, 1903, to Miss Leila Mapes of Fishkill, N. Y., and has one daughter.

JAMES C. SHARKEY. Is in general practice in Rensselaer, N. Y., where he first located in 1896. Was married in June, 1904, but lost his wife in November, 1905. He has been three times health officer and has held several minor political offices.

HENRY L. K. SHAW. After graduating was interne at St. Peter's Hospital and later junior physician at the Utica State Hospital. After spending some time abroad in the study of pediatrics he returned to Albany where he is now in practice giving his special attention to children. He takes a prominent part in all local and state medical affairs and has been elected to membership in the American Pediatric Society. On March 29, 1906, he married Miss Burrell of Little Falls, N. Y., and at the present time is abroad on his honeymoon.

EDWARD G. STOUT. Was last known at the Utica State Hospital. No reply to inquiry of 1906.

ROSCOE J. TAYLOR. Was last known at Antwerp, N. Y. No reply to inquiry of 1906.

BURTON VAN ZANDT. Is practicing at Schenectady, N. Y. He did not reply to inquiry of 1906.

JOHN D. VEDDER. Remained in Albany about six months after graduation and then settled at Johnstown, N. Y., where he is still in practice. He has been health officer and city physician, is married and has one son.

JOSEPH E. VIGEANT. After leaving college went to his home in Massachusetts where he only remained a short time and then located at Elizaville, N. Y. There he remained seven years and moved to Red Hook, N. Y., his present home. He was married in 1901 and has two children.

EDWARD J. WIENCKE. Has practiced in Schenectady, N. Y., ever since his graduation and has no complaint to make. He is married and has two children.

THOMAS G. WRIGHT. He practiced in Troy, N. Y., from the time of his graduation until his death, which occurred February 9, 1906, following an attack of typhoid fever. He was ill about twelve weeks and succumbed to complications which followed the fever. He was buried with military honors, being at the time of his death assistant surgeon, Co. D, Second Regiment, N. G. N. Y., with rank of first lieutenant.

His class was represented at the funeral by Drs. Fairweather and Grady who acted as bearers.

JEROME E. YOUNG. He was last known at Lansingburg, N. Y. No answer to inquiry of 1906.

PHILLIP S. YOUNG. Began practice at East Springfield, N. Y., continuing there until 1904 when he removed to Bainbridge, N. Y., where he is at present. He was married in the spring of 1899.

K. A. BUSHNELL. Died at Little Falls, N. Y., December 23, 1896.

Respectfully submitted,

THOMAS AVERY ROGERS,
Class Historian.

The Nominating Committee, by its Secretary, Dr. Mitchell, then made the following report:

REPORT OF THE NOMINATING COMMITTEE.

For President,

THOMAS WILSON ('74), Hudson, N. Y.

For Vice-Presidents,

FREDERICK L. CLASSEN ('81), Albany, N. Y.

JAMES A. CLYNE ('86), Joliet, Ill.

CHARLES P. McCABE ('83), Greenville, N. Y.

ROBERT W. ANDREWS ('98), Poughkeepsie, N. Y.

JAMES W. KING ('84), Tivoli, N. Y.

For Recording Secretary,

J. MONTGOMERY MOSHER ('89), Albany, N. Y.

For Corresponding Secretary,

ANDREW MACFARLANE ('87), Albany, N. Y.

For Treasurer,

ROBERT BABCOCK ('84), Albany, N. Y.

For Historian,

EUGENE E. HINMAN ('99), Albany, N. Y.

For Members of the Executive Committee (term three years),

ARTHUR SAUTTER ('94), Albany, N. Y.

TERENCE L. CARROLL ('85), Albany, N. Y.

LEO F. ADT ('92), Albany, N. Y.

E. GERALD GRIFFIN ('01), Albany, N. Y.

On motion of Dr. Tucker, the Secretary was directed to cast one ballot for the names contained in the report. The Secretary then read these names and President Tefft declared the members named in the report the duly elected officers of the Association, for their respective terms.

Dr. Earl D. Fuller and Dr. Willis G. Tucker, being called upon, made brief extemporaneous remarks.

The Recording Secretary made the usual announcements of the further program of the day, and no other business appearing, the meeting adjourned.

COMMENCEMENT EXERCISES.

The seventy-fifth commencement exercises of the Albany Medical College were held at Odd Fellows' Hall, on Tuesday Afternoon, May 1, 1906, at three o'clock, in the presence of a large audience. Rev. Dr. A. V. V. Raymond, Chancellor of Union University, presided, and upon the stage were seated the members of the Faculty, officers of the Alumni Association and prominent citizens.

The following was the

ORDER OF EXERCISES.

<i>Overture</i> —"Summernight's Dream".....	<i>Suppé</i>
<i>Prayer</i> —REV. J. V. MOLDENHAUER	
<i>Music</i> —INTERMEZZO, "Poppies".....	<i>Moret</i>
<i>Essay</i> —THEOBALD FREDERICK DOESCHER	
<i>Music</i> —SELECTION, "Mexicana".....	<i>Hubbell</i>

CONFERRING DEGREES

BY ANDREW VAN VRANKEN RAYMOND, D. D., LL.D.,
Chancellor of the University

<i>Music</i> —IDYLLE, "The Flatterer".....	<i>Chaminade</i>
<i>Address to the Graduating Class</i> —HON. ANDREW S. DRAPER, LL.D.	
<i>Music</i> —MARCH ESPANGNOL, "Sorella".....	<i>Gallini</i>
<i>Valedictory</i> —LEMON DWIGHT WASHBURN	
<i>Report on Prizes and Appointments</i> —JOSEPH D. CRAIG, M. D.	
<i>Music</i> —FINALE, "Down the Field".....	<i>Friedman</i>
[HOLDING'S ORCHESTRA]	

The Graduating Class was as follows:

Henry Francis Albrecht.....	Troy, N. Y.
Fred Nicholas Bibby.....	Pottersville, N. Y.
John Breen.....	Wevertown, N. Y.
Roy Munro Collie.....	Johnstown, N. Y.
Morey Charles Collier, Ph. B.....	Savona, N. Y.
Charles Elisha Collins, Ph. G.....	Troy, N. Y.
Frederick Charles Conway.....	Albany, N. Y.
Edward Adt Dean.....	Sardinia, N. Y.
Adelbert Stephen Dederick.....	Cohoes, N. Y.
Theobald Frederick Doescher.....	Albany, N. Y.
Lee Roy Dunbar.....	Gloversville, N. Y.
Willis Woodford Dutcher.....	Albany, N. Y.
Vernon R. Ehle.....	Gloversville, N. Y.
Hermon Ernest Gak.....	Fairmount, N. Y.
George Reinhold Goering.....	Utica, N. Y.
Stowell Burroughs Grant.....	Afton, N. Y.
Percival William Harrig.....	Albany, N. Y.
Joseph Friend Harris.....	Albany, N. Y.
Clinton Benjamin Hawn, B. S.....	Albany, N. Y.
Samuel Orestes Kemp, Jr.....	Albany, N. Y.
Winfield Snell Kilts.....	Fort Plain, N. Y.
William Andrew Krieger.....	Poughkeepsie, N. Y.
Price Lewis.....	Remsen, N. Y.
Floyd Dempster Michael.....	Lassellsville, N. Y.
David Cushing Nolan.....	Albany, N. Y.
Charles Albert Prescott.....	North Creek, N. Y.
Walter Ancel Reynolds.....	Albany, N. Y.
John Fletcher Robinson, A. B.....	Albany, N. Y.
Willis Nelson Simons.....	Canajoharie, N. Y.
Eugene Gillis Steele.....	North Adams, Mass.
Lemon Dwight Washburn.....	Fort Ann, N. Y.
Edward Gove Whipple.....	Malone, N. Y.

Dr. Craig presented the prizes. He read a report on the Vander Poel prize, endowed by Mrs. Gertrude W. Vander Poel, in memory of her husband, the late S. Oakley Vender Poel, for many years a professor in the college, stating that the prize, consisting of a clinical microscope and accessories, offered to the senior student passing the best bedside examination in general medicine, has been awarded to Dr. Frederick Doescher, with honorable mention of Dr. Vernon R. Ehle, and that the competitive examination for house physicians and surgeons at the Albany Hospital the following appointments had been made: Drs. Percival W. Harrig, T. Frederick Doescher, LeRoy Dunbar, William A. Krieger, Walter A. Reynolds, Joseph F. Harris and

Fred N. Bidby; at St. Peter's Hospital, Drs. Morey C. Collier, John Breen and Willis N. Simons; at the Samaritan Hospital, Troy, Drs. Adelbert S. Dederick and Winfield S. Kilts; at the Ellis Hospital, Schenectady, Drs. Roy M. Collie, Clinton B. Hawn and Vernon R. Ehle; at Seton Hospital, New York City, Dr. Edward G. Whiffle; at the Utica Hospital, Dr. Stowell B. Grant. Dr. John Fletcher Robinson had been appointed assistant in surgical pathology at the Bender Hygienic Laboratory, and Dr. Charles W. L. Hacker, of the Class of 1905, pathologist at the Albany Hospital.

The prize offered by Drs. Vander Veer and Macdonald for the best report of the surgical clinics was awarded to Dr. J. Fletcher Robinson. For the second best report of these clinics, the prize offered by Drs. Hale and Morrow was awarded to Dr. Percival W. Harrig, with honorable mention of Dr. Joseph F. Harris.

The prize consisting of an ophthalmoscope, offered by Dr. Merrill for the best report of the eye and ear clinics, was awarded to Dr. Joseph F. Harris.

The Townsend Physiological prize endowed by the late Professor Franklin Townsend, Jr., M. D., was awarded to Mr. Charles E. Slater, for passing the best examination in physiology at the end of the first year of study. The second best examination was passed by Mr. W. F. Conway.

Dr. Boyd's prize to the student passing the best final examination in obstetrics was awarded to Dr. LeRoy Dunbar.

The prize consisting of a case of surgical instruments, offered to the senior student passing the best final examination, by the late Dr. T. W. Nellis, was awarded to Dr. LeRoy Dunbar, with honorable mention of Drs. T. Frederick Doescher and Percival W. Harrig.

The prize offered by Dr. H. R. Powell to the second-year student passing the best final examination, consisting of a general operating case, was awarded to Mr. Jerome Myers, with honorable mention of Mr. David Kidd and Mr. Joseph Levi Donhauser.

A prize consisting of Gross' complete pocket case of instruments, offered by A. B. Huested & Co. to the first-year student passing the best final examination, was awarded to Mr. W. F. Conway, with honorable mention of Mr. Charles J. Kelley.

The Daggett prizes, consisting of eighty and forty dollars,

respectively, for the best "anatomical specimens," were both awarded to Mr. Robert S. Lipes.

The Daggett prize for the best "department irrespective of scholarship," consisting of eighty dollars, was awarded to Dr. John Fletcher Robinson, and the second prize, consisting of forty dollars, was awarded to Dr. Henry F. Albrecht.

THE ALUMNI DINNER.

The thirty-third annual dinner of the Alumni Association was held at the "Ten Eyck," on Tuesday evening, May 1, 1906, at half past eight o'clock. About one hundred were present, including members of the Association, the guests, and members of the graduating class.

After the tables had been cleared and cigars passed, the Toastmaster, Dr. Arthur G. Root, read the following telegram from the President-elect of the Association, Dr. Thomas Wilson:

"I regret that my recent illness compels me to be absent to-day. Please extend to the Alumni my most sincere thanks for the honor conferred upon me. I feel deeply the honor and if devotion and loyalty to Alma Mater count for anything I hope, in a measure, to meet their expectations."

The following toasts were then responded to:

1. "The Retiring President," Dr. Charles B. Tefft.
2. "Union University," Chancellor A. V. V. Raymond.
3. "The Clergy," Rev. Roelif H. Brooks.
4. "The Faculty," Dr. Frederic C. Curtis.
5. "The Law," Hon. Joseph A. Lawson.
6. "The Class of 1906," Dr. Edward A. Dean.

Editorial

Each man diagnosed the weather for himself. Six doctors over a patient with a hidden disease are never so impressive nor so obstinate as six seafaring men over a probable change of wind.

Caleb West, Master Diver.

J. HOPKINSON SMITH.



The 1906 meeting of the Alumni Association was **The Alumni Association** notable in several respects. At the preliminary meeting of the Executive Committee it was decided to attempt an annual dinner without a deficit, and this was accomplished. An apparently increasing lethargy of the Association was discussed, and the opinion of out-of-town members, emphasized by Dr. Tefft, the retiring president, was to the effect that this state of hebetude^v was largely due to the inactivity of the home officers. At a later meeting, under the chairmanship of Dr. Wilson, the newly elected president, measures were taken to revive the Association. It was generally believed that the dependence of the Association upon the Faculty of the College is the factor most prominent in curtailing its usefulness, and the effort is to be made to demonstrate its individuality. Two objects are to be sought at once: first, the awakening of some spirit in the choice of officers, for which an Australian scheme of balloting is proposed; and, secondly, the securing of a fund to justify the Executive Committee in preparation of a suitable annual celebration. The details are now under consideration by the Committee. It is hoped that a plan may be perfected whereby the voting may be opened to every member of the Association, whether present at the meeting or not. Fortunately for the Association at this critical period of its existence, its president is well qualified to execute its needs. Dr. Wilson was one of the founders of the Association, is entirely familiar with its history, and is now chosen for the presidency after two years of active service upon the Executive Committee. He is well acquainted with the sentiments of graduates of the college outside of Albany, and may be expected to harmonize the many different interests now helpless by reason of incoordination. As an indication of the catholic purpose of the committee the vacancy in its membership was filled by the selection of an out-of-town alumnus, Dr. Thomas Carney of Schlnectady and Dr. Carney has indicated his desire for active work.

As the first step toward obtaining the co-operation of members of the Association the committee has issued a circular, the first of a series, in which the objects desired to be attained are indicated. This manifesto, which has been not inappropriately described as a "Declaration of Independence," is in part as follows:

The Executive Committee believe that the Association should no longer continue a burden upon the College, but should be a help. The expense of maintaining the College under the new demands of medical instruction of the last decade, has greatly increased. It is only necessary to mention the cost of the new laboratories and the subsidies to the hospitals, with constantly growing requisition for apparatus and material of all kinds, to indicate in how many directions money is used. It is not right that the Association should increase the difficulties. Upon the executive officers falls the task of directing its machinery, and of preparing for its meetings. But the need of close figuring, the uncertainty of attendance, doubt as to the means to entertain the members at the annual meeting, have placed a restraint upon the Executive Committee which seriously embarrasses its work.

We have every reason to believe that the graduates of the College not only wish the continuance of the Association, but, by a very comfortable majority feel an active personal interest, and in many cases enthusiasm. But they have never been asked to manifest a steady, perennial purpose. In fact, the College Faculty has discouraged any appeal, and through mistaken generosity, has suffered the present state of affairs to develop. Your Committee now asks you, personally, to assist in launching the Association on an independent career. In the last annual address, Dr. Tefft, the retiring president, urged this, and it is done without the suggestion of the College Faculty, in our belief that this step is essential to the usefulness and the existence of the Association.

We need, in the first place more money. There are now approximately, fifteen hundred correct addresses on our rolls. You will be doubtless surprised to learn that in response to the Treasurer's annual request for dues, the number of payments has been as low as three. Payment of dues is not obligatory, has never before been urged, and we do not expect to advocate that it be made a requirement now. But we believe that every alumnus should regard this small annual payment of one dollar as a duty, and we make this statement with knowledge of what is done in other organizations of the same kind.

We propose, first, to use this money more liberally, in printer's ink. Instead of one communication a year, several of value could very profitably be issued. A plan is in contemplation to arrange for the election of officers by ballot, so that every member of the Association may vote each year whether he attends the meeting or not.

Secondly, much more could be done to make the annual celebration entertaining and pleasant. We wish to curtail the cost of alumni day to those who come, and to introduce some variety and attractiveness beyond a formal dinner. You have on this Committee representatives who

know how to get the good things of life, and they needed only your cooperation to make each alumni day an occasion of lasting remembrance. Many of our members say that this day is their only respite from work, and they should return compensated, rejuvenated, and, if you say the word,—exhilarated.

Perhaps this is enough to say. But the Committee has faith in the Association, and believes it has only to ask to receive. It is possible that a generous response may be made, and a gradually accumulating fund made available for any of the many good purposes to which the Association might decide to place it.

Little Biographies

VI. FRANCIS GLISSON.

FRANCIS GLISSON, whose name is indissolubly connected in the minds of students of medicine with the capsule of the liver, was born in 1597, in the little village of Rampisham, in the County of Dorset, England. His father was William Glisson, and the family was one in comfortable circumstances. Of his early life and education little is definitely known, and the first important event recorded by his biographers is his entrance as a student into Gonville and Caius College, Cambridge, where he received the degree of B. A. in 1621, and of M. A. in 1624. After his graduation he was engaged, for a time, in teaching Greek, but did not take holy orders, as was common among the teachers in the English Universities in those days. He received the degree of M. A. from the University of Oxford, in 1627, but did not receive his medical degree until 1634 when, at the age of thirty-seven, he obtained his M. D. from the University of Cambridge. He probably did most of his actual medical study in London, and, according to Foster, was possibly influenced to take up this subject by the work of Harvey. Two years after his graduation (1636) he was appointed Regius Professor of Physic at the University of Cambridge, a position which he held until his death. There is evidence that he did not take the position very seriously, as he lived at Colchester from 1640 to 1648, and after that in London. In his latter days a substitute did his work for him. Most likely the atmosphere of Cambridge was not conducive to his peace and quietude of mind, for Glisson was a Presbyterian, and the University was strongly Royalist.

Aside from his chair in Cambridge, Glisson also lectured on Normal and Pathological Anatomy at the College of Physicians in London, and in 1640 delivered the Goulstonian Lectures. He was also actively interested in the formation of the Royal Society, and was one of its charter members. He was President of the College of Physicians during 1667, 1668 and 1669.

Glisson's professional reputation does not rest solely on his work on the Liver. He published, in fact, on several subjects, and his most important monographs are those on Rachitis (*de Rachitide sive Morbo puerile qui vulgo the Rickets dicitur, Tractatus, 1650*), his work on the Liver (*Anatomia Hepatis, 1654*), his philosophical treatise (*Tractatus de Naturæ Substantiæ energetica, seu de vitæ naturæ ejusque tribus primus facultatibus, 1672*), and his book on the Stomach and Intestines (*Tractatus de ventriculo et intestinis, 1677*).

The work on Rickets (1650), was the first important medical monograph published in England. It is a book of 416 pages, and gives internal evidence of having been based on careful clinical and anatomical study of a large number of instances of the disease. In gathering material for the work Glisson was assisted by seven Fellows of the College of Physicians, Sheafe, Bate, Regemorter, R. Wright, N. Paget, J. Goddard, and Trench. It was intended originally that the book should be a joint-authorship affair, but it was found that Glisson's observations were so much more numerous and detailed than those of his colleagues, that he produced the book alone, giving due credit to the others. Little has been added to his descriptions of the clinical and gross pathological aspects of the disease, and but little has had to be subtracted.

The work on the Liver (1654) was a formal treatise on the gross anatomy of this organ, and beside the accurate description of the capsule, contained facts which added a great deal to the knowledge of the distribution of the blood vessels. Glisson discovered the capsule, and, though he does not specifically say so, no doubt studied the vessels, during his preparations for a course of public lectures delivered at the mandate of the College of Physicians of London. A great deal of the work was carried on by a method which involved the careful scraping away of the parenchyma, a difficult and tedious operation.

The "*Tractatus de naturæ substantiæ energetica*" was the most philosophic of Glisson's treatises, and was an attempt to show

that all the phenomena of either dead or living beings are the successive developments of the one fundamental energy of nature. In his study he first introduced the idea of the "irritability" of living tissues, and was, in fact, the first to use the word in this sense. He observed, during his experiments on the liver, that the gall bladder and ducts excreted better when irritated, and reasoned from this that they could not be irritated unless they possessed the power of irritability. Glisson used the word irritability in its widest sense to mean any kind of response, physical, chemical, or vital, to irritation. His idea was too deep for his contemporaries, and was shelved for a century to be finally revived, in a much more restricted sense, by the celebrated Haller.

The work on the Stomach and Intestines, published in the year of his death, is barely mentioned in most of Glisson's biographies, and appears to have been of less importance than his other writings.

Of Glisson as a man and a practicing physician, little appears to be known. According to Foster he did his duty manfully during the great plague of London (1665), and earlier than this (1640), he was among the besieged in Colchester when that city was attacked by Fairfax, to whom he was an unsuccessful applicant for better terms of surrender. That he was widely and favorably known as a physician there is little doubt. He is mentioned as one of the four celebrated physicians who were consulted by John Locke in the case of Lord Ashley, who was suffering from an abdominal abscess. There is a portrait of Glisson in the possession of the Royal College of Physicians, but I have been unable to find any authentic description of his personal appearance. Mentally he was essentially a philosopher, as his writings show. Most of his books are written in a formal academic style, didactic, and at times cumbrous.

GEORGE BLUMER.

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Scientific Review

THE CEREBRO-SPINAL FLUID IN HEALTH AND DISEASE

THE DIAGNOSTIC AND THERAPEUTIC VALUE OF LUMBAR PUNCTURE.

(Continued from Annals of May, 1906, page 364.)

From the standpoint of bacteriology the study of the cerebro-spinal fluid offers considerable interest as a number of micro-organisms and even certain parasites may be encountered.

In purulent meningitis the staphylococcus and streptococcus and especially the pneumococcus and diplococcus intracellularis meningitidis of Weichselbaum have been repeatedly found. (Lichtheim, Fürbruger, Heubner). In epidemic meningitis the diplococcus of Weichselbaum is usually present, but not infrequently, the pneumococcus of Fränkel is the micro-organism concerned. In the recent epidemic in Boston, Councilman states that lumbar puncture was performed in fifty-five cases and that the diplococcus intracellularis was found in thirty-eight cases; in seven cases the pneumococcus was also present and in one case Friedlander's bacillus. Osler reports sixteen cases of cerebro-spinal meningitis, the diplococcus of Weichselbaum was found in thirteen cases. Of associated organisms, the pneumococcus and colon bacillus were each found once, and the staphylococcus was present in several cases.

Langer and Mya have each reported a case of meningitis occurring in the course of influenza and in which Pfeiffer's bacillus was detected in the fluid.

The colon-bacillus was found in several cases by Nobecourt and du Pasquier, Peltier and others.

In tubercular meningitis, the tubercle bacillus is often detected, but special precautions are usually necessary and not infrequently the most careful search remains fruitless. In order to facilitate its detection, it is generally recommended to let the fluid stand in a cool place for from 6-24 hours when the fine spider web like coagula may be spread out in thin layers and stained by the usual methods. The chances of finding the bacilli are of course much greater if the fluid be centrifugalized.

According to Fürbringer, the bacilli are found in 70 per cent. of cases. Schwarz states that he obtained positive results in 16 out of 22 cases. Slawyk and Manicatide obtained them in all of 19 cases

(16 times by direct examination, three times by the animal experiments). It must be said that the majority of observers have not had the same experience and admit that more often, they have been unable to find the tubercle bacillus. Guinon and Simon have reported 16 cases of tubercular meningitis, they did not detect the micro-organism in a single case, and the cultures remained sterile.

Very recently Nattan-Larrier and Griffon have devised a novel method of obtaining the bacilli. A small quantity of the cerebro-spinal fluid is injected into the mammary gland of a lactating guinea pig; the bacilli rapidly multiply and pass into the milk within a few days. Jemma has employed the method in three cases of tubercular meningites and obtained a positive result each time.

Of other organisms occasionally concerned in the production of purulent meningitis and which may be found in the cerebro-spinal fluid, mention must be made of the bacillus typhosus, bacillus of Neumann-Schoeffer, bacillus pyogenes fœtidus, bacillus aerogenes meningitides, bacillus mallei, bacillus of bubonic plague, bacillus pyocyaneus and the gonococcus. The micrococcus tetragenes albus has been recently found (Sicard, Hautefeuille and Thery).

Hartmann has reported a case in which cysticercus of the brain was diagnosticated by lumbar puncture, and in one case published by Jacob, the hooklets of echinococcus were detected in the fluid.

In the disease known as "sleeping sickness," and which is due to the presence within the system of a parasite called the "trypanosome," the parasite is almost invariably present in the cerebro-spinal fluid during the final stage of the disease.

Castellani, who was the first to detect its presence in the cerebro-spinal fluid, found it in twenty of thirty-four cases; these facts have been corroborated by Bruce, Nabarro, Greig and others. The trypanosome was found in all of the thirty-eight cases reported by Bruce.

As to the spirocheta pallida of syphilis, there are yet but few observers who have attempted to find it in the cerebro-spinal fluid. Gordon made careful examinations in ten cases. In eight of these cases either cerebro-spinal syphilis or tabes was clinically evident, and the result was negative. The two remaining cases presented a syphilitic chancre still in evolution,

and doubtful bodies were found in the fluid of one of them. Metchnikoff and Roux assert that positive results are only obtainable in primary and secondary lesions, and one may naturally infer therefrom that of all syphilitic lesions, those of the nervous system are the least likely to favor the clinical microscopist.

In malignant tumors (sarcoma, glioma) characteristic tumor cells have been observed in the fluid obtained by lumbar puncture by Philippe-Cestan-Oberthur, Rindfleisch, Dufour, Loeper and Crouzon, etc.

Granular bodies, phagocytes, etc., have also been described (Krönig, Sabrazés, Muratet).

Of late years much importance has been attached to the cytologic examination of the cerebro-spinal fluid and it is to Widal, Sicard and Ravaut that we owe both its introduction as a valuable means of clinical diagnosis and the greater part of the knowledge acquired as the result of its application. Not only is the method of use in the various forms of infectious diseases of the nervous system, but also in certain affections of a chronic character and where the absence of micro-organisms renders it the sole means of diagnosis.

Normally there are usually no cellular elements in the cerebro-spinal fluid; at most may one find a few lymphocytes after using the centrifugal machine, but in the various forms of meningitis acute and chronic, cellular elements, generally abundant are observed. The nature of the elements varies with the form of meningitis under consideration and is especially influenced by the acuteness or chronicity of the affection. In a general way polymorphonuclear leucocytes predominate in all forms of acute meningitis (epidemic cerebro-spinal, purulent), whereas lymphocytes are characteristic of tubercular meningitis; this latter form being usually considered as running a sub-acute or chronic course.

It must not be forgotten however that lymphocytes are found during the convalescence of acute non-tubercular meningitis, especially of the epidemic cerebro-spinal form. While these facts have been confirmed by the researches of numerous observers (Achard-Loeper, Souques, Faisans, Meri, Guinon-Simon, Bendix, Milian, Concetti, Devaux, Seglas and many others) so that a classic formula has found its place in text books, it must be stated that some divergence of opinion still exists. Thus,

Lewkowicz, Brion, Leri, Guinon, Laederich, etc., have observed cases of tubercular meningitis where the polymorphonuclear leucocytes were equal in number to the lymphocytes or even predominated. Zambelli maintains that lymphocytes are encountered in tubercular meningitis wherever the bacilli are absent otherwise polynuclears are observed. Vaquez and Sicard state that lymphocytes are the rule in the meningitis occurring in the course of typhoid fever.

From all this, it would seem preferable to consider a polynucleosis as the indication of an acute process and a lymphocytosis as characteristic of a subacute or chronic one, rather than to draw conclusions as to the nature of the infection merely from the cytologic formula.

Widal has himself admitted that any meningeal irritation may ultimately determine a lymphocytosis.

Aside from the various forms of meningites just considered, variations in the cytology of the cerebro-spinal fluid occur in the course of many affections of the nervous system whenever the meninges are implicated and that is especially true in the syphilitic and parasymphilitis lesions of the brain and cord.

Widal, Monod, Sicard and Ravaut have shown that a well-marked lymphocytosis is invariably present in cerebro-spinal syphilis, tabes and general paresis and the later researches of Babinski and Nageotte, Marie and Crouzon, Milian, Clergier and a host of others have confirmed this.

Ravaut says that the cerebro-spinal fluid is normal in individuals suffering from tertiary syphilis affecting the skin, mucous membranes and osseous system—but that a marked lymphocytosis is always found when there are ocular manifestations. Unless the nervous system is implicated, the fluid is normal in patients who have once presented evidences of syphilis, however marked these may have been. A lymphocytosis is the signature of the cerebro-spinal localization of the virus.

Milian has observed a lymphocytosis in most individuals suffering from severe headache in the course of secondary and tertiary syphilis.

In tabes the lymphocytosis is usually abundant and occurs very early in the course of the disease—a fact which is of the utmost diagnostic value. Milian states that the lymphocytosis is most abundant in incipient tabes and where the syphilis infection is comparatively recent, and slightest in cases run-

ning a slow course and coming on late after infection. Lymphocytosis is invariably present in any case presenting ataxia and the other typical manifestations of the disease.

de Lapersonne was the first author to report the occurrence of lymphocytosis in ocular syphilis. It was well marked in two cases of recent optic neuritis and in one case of paralysis of the motor oculi, moderate in a case of old optic neuritis; he maintains that the lymphocytes gradually disappear as restoration of function takes place.

In general paresis the cytology of the cerebro-spinal fluid yields the same valuable information as in tabes. Widal and Ravaut, Sicard, Joffroy and Mercier, Monod, Nageotte, Seglas and Nageotte, Dupré and Devaux, etc., to whom we owe most of our knowledge concerning the cytology of this affection, have definitely established the constant occurrence of a well marked lymphocytosis in the very earliest stages of general paresis.

Widal and Lemierre have observed a polynucleosis when paralytic strokes came on in the course of the disease. Belin and Bauer have reported a case in which the cytologic examination was performed five times within five months and in which a distinct polynucleosis (ninety per cent) was each time observed.

These rare facts in literature compromise in no way the well-grounded principle that a lymphocytosis is present in over ninety per cent of cases and that it constitutes an invaluable aid in the early diagnosis of the disease.

Both in general paresis and tabes, the lymphocytosis appears early, is well marked and is moreover permanent, being found even in the terminal coma of general paresis (Widal, Clergier, etc.).

A lymphocytosis also occurs in other diseases. Dufour has had positive results in one case of alcoholic meningitis, verified at the autopsy and Moindrot states that a lymphocytosis is not infrequent in cerebral tumor. Again a positive cytology is not uncommon in pachy-meningitis cervicalis hypertrophica and multiple sclerosis.

In the various forms of herpes and in the herpetic types of syphilides, a lymphocytosis is almost constant, as has been demonstrated by the researches of Brissaud and Sicard and later by the contributions of Widal and Le Sourd, Achard, Loeper and Laubry, Chauffard and Froin and others. Sicard

insists upon the persistence of the reaction especially in cases where painful manifestations continue for a long time after the disappearance of the eruption.

Ravaut and Darre have reported the existence of lymphocytosis in connection with relapsing herpes of the genitalia in twenty-one of twenty-five cases.

Laudouzy mentions a case in which he observed herpes zoster in the incipient stage of Pott's disease; four relapses occurred later in the course of the affection. Although no mention is made of a cytologic examination, the observation is a precious one, inasmuch as it confirms the spinal origin of herpes and furthermore implies its close relationship to tubercular lesions.

It is a well-known fact that herpes is fairly common in meningitis, more so perhaps in the tubercular form, although Evans maintains the contrary.

Ralliou who has devoted his thesis to this subject, states that lymphocytosis occurs in about two-thirds of cases of herpes.

Sicard and Bouchaud have reported three cases of herpetiform syphilide in which an abundant lymphocytosis was present. Two of these patients were tabetics.

Dopter mentions one case of urticaria affecting an herpetiform distribution and where the cytology was equally positive.

In the course of various infectious diseases cytodagnosis acquires again much importance whenever nervous manifestations appear.

Thus, Dufour and Giroux have observed a true meningeal formula in scarlatina and in seven cases examined to that effect by Dopter a distinct lymphocytosis was found in every case.

Monod, Chauffard and Boidin have called attention to the marked reaction occurring under the same circumstances in the course of epidemis parotitis. Dopter obtained a positive result in cases of associated facial paralysis, and Sicard has reported similar facts in connection with the occurrence of herpetic lesion in the domain of the trigeminal nerve as a complication of parotitis.

A well-marked lymphocytosis has also been observed in many cases of trigeminal (facial) neuralgia (Sicard, Pitres, etc.).

Bearing these facts in mind, it is not improbable that a positive reaction may exist in the course of any general infectious disease, whenever nervous manifestations of appreciable intensity appear, and it would seem desirable in such cases to

determine by lumbar puncture whether or not a true meningeal implication has developed.

The examination of the cerebro-spinal fluid is negative in hysteria, neurasthenia, the various psychoses and dementias, chronic alcoholism, etc.

It has always been considered that a lymphocytosis is absent in epilepsy, but in a recent publication Mehrzbacher claims that a moderate reaction was present in six of twelve cases which he examined.

From all that has been said concerning cytodiagnosis, it is perfectly evident that lumbar puncture has become an invaluable means of diagnosis, and it is rather inexplicable that the method has not been more generally adopted.

That a lymphocytosis occurs in a host of affections constitutes no serious objection to its real value in diagnosis. In the more common forms of meningitis, although the micro-organism is frequently detected, such good fortune is not constant, and there are many eminent clinicians who willingly admit that in tubercular meningitis at least, they have been less fortunate than Fürbringer and his optimistic followers. Thus Osler, Heubner, Marfan and the majority of French observers hold that the fluid is very often sterile. In such cases lymphocytosis, which is the rule, will certainly throw much light on the diagnosis, which could otherwise be made only by culture methods or intraperitoneal inoculation, both of which means require such length of time as to be hardly suitable for clinical purposes.

Then the possibility of confusing tubercular meningitis and the parasyphilitic affections will hardly present itself to any one's mind. At all events, one fact is certain, the cytologic examination of the cerebro-spinal fluid enables us to determine the presence or absence of meningitis, and that alone is of extreme value. How often does the question come up of establishing the functional or organic nature of a disease?

There is no doubt that in obscure affections of the nervous system, lumbar puncture may prove to be the most potent factor in arriving correctly at a diagnosis, which might otherwise have remained impossible. That is especially true of syphilitic and para-syphilitic diseases, and the well-known fact that they contribute largely to the percentage composition of neuropathology adds additional value to cytology. Incipient tabes and general paresis are not always easy of diagnosis, and it may

be important (generally it is, and the patient may insist on knowing the exact nature of his affection) to rapidly arrive at one; it may be said without hesitancy "the first symptoms have barely become manifest when an abundant lymphocytosis already exists."

It frequently happens that patients in a comatose condition are admitted at hospitals and that no information regarding them can be obtained; a hemiplegia may or may not be present, and very often no definite diagnosis can be made; if a lymphocytosis is detected, we may safely conclude to the syphilitic nature of the condition and the prognosis will be thereby much bettered. It may be stated in this connection that Widal and Lemierre found an abundant lymphocytosis in twelve of thirteen cases of syphilitic hemiplegia and in thirteen cases of cerebral hemorrhage and softening due to other causes the cytologic examination was negative.

The prognosis will also be influenced by lumbar puncture in the various acute infectious diseases associated with meningeal complications.

Even in surgical diagnosis lumbar puncture may prove of decided value. In traumatic cases, with severe cerebral symptoms, trephining should not be resorted to if pure blood is obtained by puncture of the subarachnoidean space, as this would indicate extensive injury to the brain substance proper. On the contrary if no blood is found, one may reasonably infer that the hemorrhage is epidural and an operation may be then advised.

Again, in cases of sinus thrombosis and cerebral abscess, operative intervention should only be encouraged if lumbar puncture has definitely established the integrity of the meninges.

Although lumbar puncture has yielded brilliant results in clinical diagnosis and may even have an important bearing upon prognosis, it must be admitted that as a therapeutic measure, its value is rather limited. Inasmuch as it elucidates the nature of disease, it serves to direct our efforts along more rational lines of treatment and thus indirectly contributes to therapy; but in itself, the removal of certain quantities of the cerebro-spinal fluid is only beneficial in a few affections.

LA SALLE ARCHAMBAULT.

(To be continued.)

Births.....	87
Marriages.....	52
Still and premature births.....	2
Total.....	<u>141</u>

BUREAU OF CONTAGIOUS DISEASES.

Cases Reported.

	1902	1903	1904	1905	1906
Typhoid Fever.....	9	4	8	2	6
Scarlet Fever.....	2	10	20	5	22
Diphtheria and Croup.....	9	22	24	7	6
Chickenpox.....	9	6	6	1	4
Measles.....	27	134	25	201	3
Whooping-cough.....	0	2	0	0	1
Consumption.....	0	2	4	0	0
Total.....	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

CONTAGIOUS DISEASES IN RELATION TO PUBLIC SCHOOLS.

	Reported		Deaths	
	D.	S. F.	D.	S. F.
Public School No. 6.....	1	3	..	..
Public School No. 12.....	1	1	..	..
Public School No. 13.....	..	1	..	..
Public School No. 14.....	..	2	..	..
Public School No. 17.....	..	2	..	..
Public School No. 21.....	..	2	..	..
Public School No. 22.....	..	1	..	..
St. Mary's School.....	..	1	..	..
St. John's School.....	..	1	..	..
Number of days quarantine for diphtheria:				
Longest..... 24	Shortest..... 13	Average.....	17 ⁴ / ₅	
Number of days quarantine for scarlet fever:				
Longest..... 50	Shortest..... 11	Average.....	28 ³ / ₁₇	
Fumigations:				
Houses..... 29	Rooms.....	60		

ANTITOXIN.

Cases of diphtheria reported.....	6
Cases of diphtheria in which antitoxin was used.....	6
Cases in which antitoxin was not used.....	0
Deaths after use of antitoxin.....	2

BUREAU OF PLUMBING.

In the Bureau of Plumbing, Drainage and Ventilation there were two hundred and thirty-four inspections made, of which one hundred and seventy-two were of new buildings and sixty-two of old buildings. There were thirty-five iron drains laid and twenty-six connections with street

sewers, thirty-seven tile drains, sixty-five urinals, fifty-two cesspools, six hundred and nine wash basins, one hundred and seventy-two sinks, two hundred and seventy bath tubs, fifty-six wash trays, eleven trap hoppers in yard, five hundred and eighteen tank closets, one drinking fountain, thirty-eight slop hoppers and nine shower baths.

There were one hundred and fifty permits issued, of which one hundred and ten were for plumbing and forty for building purposes. There were forty-one plans submitted of which twenty were of old buildings and twenty-one for new buildings. There were ten houses examined on complaint, ten with blue, red. There were five water tests made. Fifty-four houses examined on complaint and seventy-seven re-examined. Forty-three complaints were found to be valid and eleven without cause.

Medical News

Edited by Arthur J. Bedell, M. D.

DINNER TO DR. FERGUSON.—A testimonial dinner to Dr. E. D. Ferguson by his colleagues of Troy, N. Y., was given on April 18, 1906. The presentation speech of the evening was made by Dr. Reuben H. Irish, as follows:

Mr. Toastmaster and Gentlemen:

I wish to express my appreciation of the honor that has been conferred upon me by the members of this committee in requesting me to present this cup. It is one of the pleasantest duties that it has been my privilege in life to perform.

It is especially fitting that a testimonial to Dr. Ferguson should come from this society of which he was the founder and which has grown and flourished under his eye and largely under his guidance, until it is now recognized as one of the first scientific organizations of this section. The growth and development of this association is, in itself, one of the best testimonials to his untiring perseverance, and sincere devotion to the cause of medical advancement.

This, I believe, is the first occasion upon which we, as a body, have come together to honor a fellow member while still among the living and actively engaged in practice—and I am sure the activities of our honored guest in the past six months, are good evidence that he is still very much alive, and that his energies are not on the wane.

But why should we wait until a man has at least one foot in the grave to say a few pleasant things of him?

I, for one, am glad that we have taken the opportunity to pay this tribute of respect, while he is in full physical and mental vigor to enjoy it.

I have used the term to honor him, and yet to such a man as Dr. Ferguson a demonstration of this kind can scarcely be called an honor. It is only one of many well earned rewards of his profession.

Yet each word spoken in his praise here to-night brings reflected

honor to this association, for we are proud to have one among us, who in the past has done so much to advance the interests of the medical profession at large, and who is still recognized as one of the most careful diagnosticians and most skilful surgeons.

But above all he reflects credit upon this body, not so much for what he has done or may still do, in the advancement of science, but for what he is—a gentleman of the old school, who never by word or deed has deviated from the principles of professional ethics, which should govern professional men.

Doctor Ferguson:

In appreciation of your sterling qualities as a citizen, in recognition of your high standard in the medical profession of your city, state and country, and in token of the love and respect which we all bear you, I, in behalf of the "Medical Association of Troy and vicinity," have the honor of presenting you with this loving cup.

It is the hope and earnest desire of every member that you may long continue actively engaged as at present in the practice of your profession, for we need the example of your life before us, and we wish still to enjoy the benefits of your wise counsel and that ripe experience which time alone can give.

And we are further united in the hope that occasions such as this may establish a closer bond of fellowship between the members of that profession in the interests of which the labors of your life have been spent.

THE ALBANY GUILD FOR THE CARE OF THE SICK.—Number of new cases, 131, classified as follows: Dispensary patients receiving home care, 3; district cases reported by the health physicians, 19; charity cases reported by other physicians, 46; patients of limited means, 63; old cases still under treatment, 52; total number of patients under nursing care during the month, 183.

Classification of diseases (new cases): Medical, 38; surgical, 10; gynaecological, 4; obstetrical work of the Guild, 32 mothers and 32 infants under professional care; dental, 3; throat and nose, 2; removed to hospitals, 2; deaths, 10.

Special Obstetrical Department: Number of obstetricians in charge of cases, 4; attending obstetricians, 3; medical students in attendance, 6; Guild nurses, 6; patients, 6; number of visits by head obstetrician, 64; by attending obstetricians, 4; by the medical students, 30; by the Guild nurses, 128; total number of visits for this department, 226.

Visits of Guild nurses (all departments): Number of visits with nursing treatment, 1,354; for professional supervision of convalescents, 200; total number of visits, 1,554. Six graduate nurses and six assistant nurses were on duty. Cases were reported to the Guild by four of the health physicians and by 38 other physicians and by three dentists.

POCAHONTAS HOSPITAL AT JAMESTOWN EXPOSITION.—The first building to be completed at the Jamestown Exposition will be the Pocahontas Hospital. Every exposition has taught the absolute necessity of a

well-equipped hospital, under the charge of a competent medical director, with a staff of dependable house doctors and trained nurses.

The Pocahontas Hospital is not a very large building, as exposition hospitals go, but it has been planned to meet every ordinary demand. It has offices for the medical staff, sleeping apartments for house doctors, nurses, and the necessary help. There are bright, airy wards, both for male and female patients, and private rooms for such sufferers as may be too ill to occupy cots in the wards and require isolation. In the basement will be a kitchen, dining room, store rooms, and apart from these there will be installed a first-class heating outfit.

The hospital will contain a room for medical and surgical supplies, a sterilizing room, and an operating theatre, planned and equipped according to the most modern methods. A complete outfit of hospital instruments and appliances will be placed in this building. In this respect, the Pocahontas Hospital will in many ways be superior to any other in the South. The outfit is elaborate in every detail, the manufacturer taking a special pride in this equipment which must of necessity prove valuable to him as an advertisement if it is excellent, while detrimental to him if the reverse were true.

Already a competent corps of resident surgeons and nurses is being congregated. These will live in the hospital, and be ready at any hour of the day or night to care for emergency cases needing attention.

A temporary telephone system will soon be installed, connecting the hospital with all points of the grounds, and an ambulance service, already organized and soon to be put into operation, will answer these calls from a central station in a very few minutes.

The medical director will exercise direct supervision over the work of the medical staff, from each of whom he will receive a daily report, and will have inspectors who will inform him regarding any facts relating to the general sanitation and hygiene of the exposition grounds. These sanitary inspectors will make semi-daily visits to each exposition building and concession edifice, twice a day rendering their reports, so that any nuisance may be at once abated. The grounds have been placed in a most perfect sanitary condition, well drained throughout; and it will be a part of the medical director's duty to see that this condition is maintained throughout the exposition period.

AID FOR SAN FRANCISCO COUNTY MEDICAL SOCIETY.—The Physicians' Relief Committee of Kings County has sent out a request for contributions of instruments, books, and money for those members of our profession who lost their all in the San Francisco disaster. These contributions will be received and packed by the local Red Cross and transmitted by the Wells-Fargo Express Company free of charge, or contributions may be sent direct to the *ANNALS*.

ALBANY HOSPITAL TRAINING SCHOOL FOR NURSES.—The commencement of the class of 1906 Albany Training School for Nurses was held Friday, May 4th, at the Albany Academy for Girls, Albany, N. Y. The address to the graduates was given by the Rt. Rev. Henry R. Nelson, Bishop

Coadjutor of Albany. The diplomas were presented by Dr. Samuel B. Ward. Eighteen were graduated.

The ALBANY HOSPITAL TRAINING SCHOOL ALUMNAE announce the opening of their clubhouse No. 351 Hudson avenue, Albany, N. Y., on Thursday, May 10th.

PERSONAL—Dr. ISAAC BECKER (A. M. C., 1856) has removed from Berne, N. Y., to Altamont, N. Y.

—Dr. ALBERT VANDER VEER (A. M. C., 1862) was elected Regent of the University of the State of New York April 26, 1906.

—Dr. HENRY W. BOYNTON (A. M. C., 1866) has moved from La Porte, Iowa, to Toledo, Ohio.

—Dr. HARRY M. LINCOLN (A. M. C., 1886) has moved from Greenfield, N. Y., to Wilton, N. Y.

—Dr. JAMES CLYNE (A. M. C., 1886), is in practice at Joliet, Ill.

—Dr. JOSEPH S. PARENT (A. M. C., 1886) has moved from Birchtown, N. Y. to Ballston Spa., N. Y.

—Dr. WILLIAM B. CAMPBELL (A. M. C., 1886) is practicing at Edmeston, Otsego county, N. Y.

—Dr. IRA D. HASBROUCK (A. M. C., 1896) has moved from Providence, R. I., to Washington, R. I.

—Dr. GEORGE E. BEILBY (A. M. C., 1899) has moved from No. 12 Washington avenue, Albany, N. Y., to No. 247 State street, Albany, N. Y.

—Dr. GERALD GRIFFIN (A. M. C., 1901) has moved from No. 114 Grand street, Albany, N. Y., to No. 140 Washington avenue, Albany, N. Y.

—Dr. ROSCOE C. WATERBURY (A. M. C., 1905) is practicing at Averill Park, N. Y.

—Dr. LEMUEL R. HURLBUT (A. M. C., 1905) is in the State Hospital at Binghamton, N. Y.

—Dr. EDWARD J. BEDELL (A. M. C., 1893) has moved from Beckers Corners, N. Y., to Delmar, N. Y.

—Dr. WILFRED S. HALE (A. M. C., 1894) has returned from Europe.

—Dr. JAMES N. VANDER VEER (A. M. C., 1903) has returned from Europe where he has been doing post-graduate work for the last year.

—Dr. JAMES F. ROONEY (A. M. C., 1899) has removed from 123 Grand street to 295 Madison avenue, Albany.

—Dr. ALBERT VANDER VEER (1862) has returned from the International Congress held at Lisbon, Portugal, in April.

—Dr. CHAS. L. BAILEY has moved from No. 281 Clinton avenue to No. 293 Clinton avenue, Albany, N. Y.



ISRAEL I. BUCKBEE, M. D.

DEATHS.—Dr. JAMES CARR (A. M. C., 1886) of No. 36 Platt street, New York City, died in December, 1905, from pneumonia.

—Dr. JOHN CAMPBELL (A. M. C., 1843) died at his home in Cold Spring, N. Y., December 25, 1905, aged 84. He was a member of the medical department of the United States Army from 1847, when he joined as lieutenant, until 1886 when he retired as colonel, receiving in April, 1904, the rank of brigadier general, retired. He was lieutenant-colonel and medical inspector U. S. V. during the Civil War; a veteran of the Mexican War and in several Indian campaigns.

—Dr. E. COLLINS BLAISDELL (A. M. C., 1858) died at his home in Quincy, Ill., December 22, 1905, from paralysis.

—Dr. ISRAEL I. BUCKBEE (A. M. C., 1841), aged 86, died at his home in Fonda, N. Y., April 25, 1906.

—Dr. JAMES E. KELLEY (A. M. C., 1901), of Saratoga Springs, N. Y., died May 14, 1906.

—Dr. LUTHER B. NEWTON (A. M. C., 1874) died at North Bennington, Vt., May 2, 1906.

In Memoriam

ISRAEL I. BUCKBEE, M. D.

Dr. Israel I. Buckbee, the last survivor of the class of 1841 of the Albany Medical College, and during a long life a most respected practitioner of the Mohawk Valley, died at his home in Fonda, N. Y., April 25, 1906.

Dr. Buckbee was born on the 12th of February, 1821, in Dutchess county, N. Y. He was the son of Gilbert I. and Mary Buckbee and the representative of the fourth generation to bear the name, Israel Buckbee, in this county. His grandfather, Jeremiah Buckbee, was one of seven sons, five of whom fought bravely in the Revolutionary war. He was of English origin and a prominent farmer in Dutchess county, where he owned a valuable tract of land. He also owned a tract of land in Warren county, mostly uncleared, and there the Doctor's parents went as pioneers in 1822. Gilbert I. Buckbee, father of the subject of this sketch, was born in 1794 and died in Fonda in 1878 at the age of 84 years. Three years later his wife died in the same place, aged 85. On the home farm in Warren county, in what was almost a wilderness, Dr. Buckbee's boyhood was passed until his father purchased another farm near the village of Glens Falls. The family and their ancestors were Quakers. At the age of 17 years the young man began the study of medicine with Drs. Clark and Peck of Glens Falls and later he studied with Dr. Littlefield, his uncle. This was followed by one year's course in the Vermont Medical College and two more in the Albany Medical

College, from which he was graduated in 1841. He spent one year with Dr. Snow of Root, Montgomery county, and afterward located in Fonda. He was a member of the Medical Society of the County of Montgomery and had been a member of the Medical Society of the State of New York since 1866. On the 10th of September, 1890, Dr. Buckbee completed a period of practice of fifty years' duration, and the occasion was honored by a meeting of his professional brethren in the county society and others, which was held at his residence in this village. On that occasion some indication of the esteem in which Dr. Buckbee was held by his colleagues and by the citizens of his town was voiced by Dr. Charles Stover, who said in part: "If the mind is allowed to run back fifty years and recall the scanty equipment that the period allowed the medical student to be provided with when he launched into practice; if one will recall the lack of clinical instruction, the paucity of instruments of precision, the labyrinthine maze of rooted superstitions and venerated errors that preceded the application of the inductive method to medicine, and then reflect that our associate whom we are here to honor tonight has kept even pace with the march of medical progress that the mellow experience of his life has been so blended with latter day science that we are all content to sit at his feet and be taught, we must award to him proved qualities of industry and courage. I hope we may hear from his own lips to what conditions and to what circumstances may be attributed his signal success. For it is success for fifty years to have gone in and out amid the families of the community and to have sympathized with them in their sorrow and rejoiced with them in their joy, to have given comfort to the afflicted, to have buoyed them up with hope when hope seemed dead, to have protected family honor and have been able to shield the innocent and the weak while presenting no barrier to offend justice. It is success for fifty years to have done one's duty as an honest citizen at the caucuses and the polls, while touching the community at so many points as only the physician may; it is success to have merited and held the esteem of one's professional associates, to have been in sympathy with the enthusiastic aspirations of youth, to have borne the friction of laudable strife without sacrifice of one's manliness."

Dr. Buckbee married on the 14th day of February, 1844, Anna C., daughter of Thomas and Elizabeth Bunn of Amsterdam. They had one child, Luella B., who married Ferguson Jansen of this village. The surviving members of the family are two grandsons, Dr. F. I. Jansen of Fonda, and Romeyn B. Jansen of Seattle, Wash., a son-in-law, Ferguson Jansen and a sister, Miss Jane A. Buckbee of Saratoga county.

At the time of the Civil War Dr. Buckbee was appointed a surgeon for the 153rd Regiment and he made Dr. Snow his assistant, but when it came time for this regiment to leave for active service his wife was seriously ill with typhoid fever, detaining him, and Dr. Snow took his place. In addition to his professional life of business he has taken much interest in agriculture. He was also a director of the National Mohawk River Bank of Fonda, his connection with the bank dating back to its organization.

ALBANY MEDICAL ANNALS

Original Communications

THE SANITARY DEPARTMENT OF ARMIES AND THE MILITARY MEDICAL OFFICER.*

By JOHN VAN RENSSELAER HOFF, A. M., M. D.,

Colonel, Assistant Surgeon General, U. S. Army.

"History draped in her ceremonial robes, describes decisive victories and the ultimate results of campaigns, but does not mention the cost in blood and tears by which they were won, nor enter into the familiar details which make all men akin."

HISTORY OF MILITARY MEDICAL ORGANIZATION.

Exactly when military sanitary organization first began to take form is impossible to say. Probably in the very beginning of human existence rude attempts were made to alleviate the sufferings of those injured in the conflicts of that day. Certainly, military medicine dates from the dawn of history. "Aesculapius, who sailed with Jason in search of the Golden Fleece, and Machaon, who, summoned by Agamemnon, dressed the wounds of Menelaus 'far on the ringing plains of windy Troy,' were prototypes of the military medical officer of to-day."

But history is singularly meager in details of this most interesting subject, and it is only by an occasional word here and there that we are enabled to form any idea of what became of the ill and injured of ancient armies. Certainly as early as 117 A. D. Rome had military hospitals, and there was an organized medical corps in the Roman army. In an order of Aurelian to his army occurs the following: "Let the soldiers be cured gratuitously by the physicians, and let them conduct themselves quietly in the hospitia, and he who would raise strife let him be lashed."

* Part of a course of lectures on military sanitation delivered before the Medical School, University of Nebraska.

But nearly seven hundred years before this Xenophon notes the presence of medical officers with his army.

In the endless conflicts of the Dark Ages, soldiers, if captured, were promptly hung or butchered; if sick, they were abandoned; and, except for the glimmering taper held by the Hospitaler Knights of Saint John, it would seem as though the light of humanity had been quenched. The entire neglect of the medical care of soldiers during this period is shown by the fact that scarcely any mention is made of it between the fall of Rome and the sixteenth century. Fronsperger (1555) was the first to formulate and publish systematic regulations for the sanitary service, which are said to be the basis of the present German army *Sanitätsordnung*.

It was only after the establishment of well-organized standing armies that any systematic methods were provided for the care of troops, and even then the medical organization was very crude, being limited to the company infirmary. From the fall of Rome until almost the beginning of the seventeenth century no account is found of the establishment of a field hospital, the first one being organized at the siege of Rouen, in 1591, and the second at Amiens, in 1597.

From this time, it would appear that the greatest advances in military organization were made by the French, who, in the language of Sully, "had pursued no other trade than that of arms." To be sure, the advance was with halting step. In 1630 medical officers were first given a distinctive military title; the Hôtel des Invalides was founded in 1659; a permanent medical corps was organized in 1708; an army and navy medical school was established in 1718; competitive examinations for the appointment of medical officers were inaugurated in 1761; and the first military medical journal was published in 1780.

The Napoleonic era produced the remarkable medico-military administrators Percy and Larrey, who disputed the honor of having perfected the field sanitary organization of the French army to a degree never before equalled. After Waterloo there was some progress, but the advance was faltering, and not until the Franco-Prussian war brought a rude awakening did the medical department of the French army reach the ideal organization it now has.

The sanitary service of other armies has been of even slower growth. Gore says, the British custom up to the sixteenth

century was to discharge the wounded with a small gratuity "to find their way home as best they might." A permanent medical department was organized in that army during the Stuart period, but it was not until the campaigns of Marlborough that this department became prominent under the clever administration and boundless courage of its senior officer, Sir John Pringle. It was this distinguished officer who suggested and pushed to a finality the articles of agreement between Lord Stair, representing Great Britain, and the Duke de Noailles, the French, neutralizing the wounded and medical personnel in the campaign of 1743. This was the beginning of the altruistic movement which culminated in 1864 in the adoption of the articles of the Geneva convention. To Sir John Pringle is due the organization of regimental, field and general hospitals in the British army, and this able officer may be said to be the progenitor of the Medical Department of the United States army, since it was his scheme of sanitary organization that this nation adopted when they separated from the mother country and adhered to for the most part for over a hundred years, long after the British army had developed it to a much higher state of efficiency.

But this development on their part was by no means rapid. During the Peninsular war the hospital personnel was detailed from the line, and that war resulted in no improvement in organization. In 1812 a transport corps, called the "Royal Waggon Train," was organized, part of the function of which was to man the ambulances, but after twenty years' trial, not proving satisfactory, it was disbanded.

The outbreak of the Crimean war found this army without an enlisted personnel for its medical department. A so-called Hospital Conveyance Corps was hastily organized, and proved hopelessly inefficient. Of this it is stated, it "failed, owing, amongst other reasons, to the total want of training of the men composing the corps. They were not accustomed to such varied service, nor to work together; further, they were advanced in years, and generally drunken and disorderly in habits." In 1855 the first medical staff corps appeared, the function of which was the performance of all hospital duties. This came to an untimely end in three months, due, it is said, to a lack of proper military organization, and was succeeded by the Army Hospital Corps.

After the Crimean war, following the custom of that country, a royal commission was appointed to inquire into the sanitary organization and regulations affecting the British army. As the result of this, an army medical school was established, and the medical department was for the first time placed on a military basis; but it was not until 1873 that the regimental system was abolished and the medical officers consolidated into a corps.

The same year a Hospital Corps was organized, and regimental hospitals were substituted by general, station and field hospitals. Four years after medical officers were for the first time authorized to command their own department, the sick and soldiers attached. In 1884 the designation of the Hospital Corps was changed to the Medical Staff Corps, and in 1891 medical officers were given army rank, with substantive titles, surgeon colonel, etc., which in 1902 were changed by eliminating "surgeon;" in a word, the medical officer of the British army was then for the first time placed on the same plane with other so-called staff officers.

The history of the Medical Department of the United States army begins in 1775, when they naturally adopted Sir John Pringle's scheme of organization, and, as previously stated, in large measure adhered to it for quite a hundred years. The War of the Revolution, fought as it was for the most part by raw levies from the people, destitute of almost every material thing, even arms and ammunition, added little to the advancement of military sanitation. The Medical Department was as a rule poorly officered and badly equipped, and the sick were crowded into wretched huts or makeshift hospitals.

The war of 1812 again found this country without sanitary organization. The lessons taught by the wars of the Directory and Empire, in which Percy and Larry gained such distinction, had apparently made little or no impression upon the people or their medical profession, for the military sanitary department was in no respect an advance beyond that of the Revolutionary army. Nothing apparently had been learned from "the vexatious controversies and sad failures of that war."

Fortunately, however, the hospitals were abundantly supplied with everything necessary for the comfort of the sick, and the essential fault lay in the lack of proper organization. With the close of the war the Surgeon General was retired to private life, and the Medical Department, as a corps, ceased to exist.

In 1814 the duties of medical officers were first clearly defined

in regulations. These have been variously modified from time to time and are even now undergoing still further modification, which must ultimately result in a very perfect code.

The act of 1818 which provided for the permanent appointment of a Surgeon General marks the beginning of the history of the Medical Department of the United States army as a permanent organization, though it was not until after the enactment of the law of 1821 that it assumed the form which it retained up to the reorganization in 1901.

Examinations for appointment as medical officers, ostensibly required as early as the Revolutionary war, became really operative in 1832, and this law has been rigidly observed since that time.

The medical history of the Mexican war is full of interest, and the work done there reflected great credit upon the medical officers, not only as sanitarians, but as soldiers as well. Nevertheless there was little or no advance in organization, for they still adhered to the then antiquated methods of Sir John Pringle, and failed to avail themselves of the improved methods developed in the Napoleonic wars. The good work accomplished was not because of the system, but in spite of it. By the act of February 11th, 1847, medical officers were for the first time given actual rank.

From the conclusion of the Mexican war until 1861 each year there was a gain, always slow and sometimes imperceptible, but nevertheless a gain. Especially the personnel was so improved through the high standard demanded by the examining boards, that the officers of the Medical Department of the army were quite on a plane with the best talent the country afforded.

The outbreak of the war of Secession again found the United States without any definite scheme of sanitary organization. The Medical Department was still an aggregation of most excellent practitioners, with few medical officers.

But the logic of events soon pointed out the place, function and responsibility of the sanitary service, and, though all through that war, as in every other, the department had to contend strenuously for everything necessary to its efficiency, yet as time rolled on these things were conceded, grudgingly indeed, but nevertheless conceded in one form or another.

Medical inspectors were appointed; the department was

given control of its hospitals; and an efficient, though improvised, ambulance corps was organized in the army of the Potomac in 1862, its personnel being detailed from the line and at the expense of the fighting effective; regimental dispensaries and field hospitals (organized in the perfecting of the sanitary service) were manned from the same source.

This improvised organization was rendered necessary not because the Surgeon General failed to recommend the establishment of an independent hospital corps, but because General Halleck disapproved his recommendations and the Secretary of War sustained him. It was not until 1864, and then only through an act of Congress, that a uniform ambulance organization was established throughout the army.

The accomplishments of the Medical Department in this war were stupendous, and are deserving of the magnificent testimonial to it found in the medical history of that unequalled conflict, and the museum and library, enduring monuments to the medical officers of that period. But with the close of the war the army apparently straightway endeavored to forget its dearly-bought experience, and resumed its old status and organization.

During the succeeding generation such experience as came to the military establishment was from the little Indian wars, in which the medical arrangements were necessarily more or less primitive. The most important law enacted during this period was that of March 1st, 1887, organizing the Hospital Corps. Loosely drawn and elastic as is this law, no act of Congress since that of 1847 is more important to the present efficiency and future usefulness of the Medical Department. The growth of this organization progressed tentatively. Post detachments were first organized, and then in 1891 companies of instruction. At this time an unsuccessful effort was made to obtain a more detailed organization. An Army Medical School was established in 1893.

The declaration of war with Spain found the Medical Department without any organization for active service, and such as was had during that war was evolved while the army was actually assembling. This organization was based upon the experience gained in 1861-65 and the methods adopted in the best foreign armies. The army corps was made the administrative unit. Each corps had a reserve field hospital and ambulance company;

each division had a field hospital and ambulance company; and each regiment, a regimental dispensary. The personnel of the Hospital Corps was in the beginning transferred, *vi et armis*, from the volunteers into the regular establishment (necessitated by the fact that Congress had made no provision for a volunteer hospital corps), and was afterwards maintained by regular recruitment. The war did not last long enough to test the efficiency of this organization, for no organization can be proficient until its personnel is trained, but theoretically it was up to the best standards, except in being under-manned both as to officers and soldiers.

Base hospitals were organized at various points, but not in sufficient number, or else the division hospitals would not have been overcrowded and immobilized. Since the Spanish-American war a complete sanitary organization for active service has been adopted and promulgated in regulations.

GENERAL CONSIDERATIONS.

The personnel of the medical department of armies has grown up from the most humble origin, for, while occasionally we see some name renowned in ancient legend mentioned in connection with military sanitation, and, mayhap, the medical officer did attain rank, position and influence in olden times, nevertheless the line leads back to the slave, to the camp follower, to the barber of the Dark Ages, and it was only when the healing art grew into and was recognized as a learned profession that its followers attained the status that education always gives, and the medical man became a medical officer.

It might be asked why the perfecting of the sanitary service has progressed so slowly and apparently with so much opposition on the part of other branches of the service, which are really those most interested in it? The reasons for this are both psychological and sociological. The average man dislikes to contemplate the possibility of a disagreeable occurrence, no matter how very probable that occurrence may be. Formerly more than now the idea prevailed that to have one's life insured was to invite disaster, and the making of one's will is generally approached with a dread and solemnity akin to that of the final act of dissolution. So, too, the idea of sickness is abhorrent to the healthy, and to many of them preparation for such an eventuality is looked upon as an invitation to disease; moreover,

since the days of Marlborough it has been considered effeminate to be ill, so that the medical department has been forced to rely upon the ten per cent. sick to justify it against the ninety per cent. well. Sometimes the majority is with it, though rarely; hence medical departments have existed rather through sufferance than by actual recognition, and their present well-defined position has been won after endless struggle for the benefit of the very people who have opposed them.

Sociological conditions have also cut a large figure in the development of the military sanitary department. As previously stated, the origin of the medical officer was of the humblest, as was that of his art. Among the classes of the older countries the profession of medicine was considered an ignoble occupation, while that of war was practically the only trade open to the more or less impecunious scions of noble houses. Even to-day in Continental armies they differentiate between officers and military physicians, and that medical officers have any social standing there is simply because they have forced it through their splendid ability and broad education.

In the United States it is of course quite different. As Weir Mitchell remarks, "in new lands, peopled by the self-selection of the fittest, by those who have the courage of enterprise and the mental and moral outfit to win for it success, the physician is sure to take and keep the highest places." Here there are no artificial class-distinctions. If one man is larger, stronger and brighter than another, it is because God has made him so, and he takes his place accordingly. The officers of the United States Army Medical Department have from the beginning measured well up to the standard of those of any other part of that army, and they have always been able to get what they required whenever they have really made up their collective mind such was necessary or desirable. If that medical department is not the very best in all respects, it is the fault of its own officers, and it behooves them to make it the best, for they can have for the *united* asking what others have struggled for through the ages and only won through military necessity.

It may be said that military medical organization is practically identical in principle everywhere, but the details vary with circumstances and the genius of the people. In France, Germany, Austria, Italy, Russia, Switzerland, Great Britain and the United States every military unit (regiment, battalion

or battery) has its own medical officers. In all modern armies the medical officers interchangeably do regimental and departmental work—in a word, they belong to a distinct military department, or so-called staff corps.

In the matter of interior economy, strength and management of personnel, etc., there are wide differences. In the Russian army, for example, the *vračh* is a physician with practically no other function, while in France, Great Britain and the United States the medical officer has command over his department in all respects. The development in all armies is essentially in the direction of that of France, which stands for autonomy, and away from Russia, where the medical officer, as such, cuts but a small figure.

All armies exist for but one purpose, war; and by far the larger part of their work is in preparation for the supreme event. It often happens that generations of soldiers must be trained that one may fight. Since Germany fought her last battle, she has trained nearly ten million of soldiers, scarcely any of whom will ever hear a hostile bullet.

Thus it will be seen that soldiers live under two quite distinct conditions, those of peace and war, and that their functions are rehearsal and performance. The combatant soldier passes his life in an atmosphere of imagination, constantly doing things to the discomfiture of a hypothetical enemy, who may never become a reality to him but surely will to some other soldier.

With the supply and medical departments, which must provide and prescribe for the fighting man, there is no imaginary existence, for, though the soldier's enemy is mostly hypothetical, he himself is very real, and must be fed, clothed, housed, and when ill or injured, cared for just the same, be it peace or war-times. Nevertheless none of these departments, in the very nature of things, can be at all times fully prepared for war, nor can their personnel have any more or less active service than the combatant soldier.

From the foregoing it will be seen that the sanitary department of an army must be organized to meet two widely different conditions—that of peace, by far the greater in point of time; and that of war, of infinite importance and the only *raison d'être* for an army. Hence such an organization must be a compromise between what would be best for each condition, and the medical officer can never lose sight of both his functions if he expects satisfactory results.

The medical regulations of modern armies substantially agree. Paragraph 1413, General Regulations, U. S. army, reads: "The Medical Department under the Secretary of War is charged with the duty of investigating the sanitary condition of the army and making recommendations in reference thereto; of advising with reference to the location of permanent camps and posts; the adoption of systems of water supply and purification; and the disposal of wastes; with the duty of caring for the sick and wounded; making physical examinations of officers and enlisted men; the management and control of military hospitals; the recruitment, instruction and control of the Hospital Corps, and of the Army Nurse Corps (female); and furnishing all medical and hospital supplies, except for public animals."

The duties of the medical staff officer of the British army are thus described: "The general treatment of the sick, officers, men, women, and children; careful observation and regulation of the sanitary surroundings of the soldiers, bearing in mind the various conditions of service in climates of widely varying character; prevention as well as treatment of disease; examination and passing of recruits for the army; invaliding of men who are physically unfit for further service; management and control of the various classes of hospitals, general hospitals, station hospitals, hospitals on board ships, lunatic hospitals, hospitals for women and children; supervision and control of all officers and men, both patients and those doing duty in these various hospitals; the command, discipline and interior economy of the Medical Staff Corps."

PERSONNEL.

But what manner of man is he who must do all these things? and what are the conditions under which they are to be accomplished?

It has been said that the soul of an army is its officers, for "the best possible troops under bad officers are at best very deficient," while indifferent but well-led men often accomplish surprisingly good results. The officer should be educated, for the profession of arms is a profession, and moreover "education is the superstructure of noble and moral qualities, the basis of which is character." In devoting himself to his country's service he foregoes opportunities for wealth and the prizes of

civil life and sacrifices personal advantages to great public ends. "He becomes a member of a class in which there is absolute social equality, community of interest and common duties, which make the whole body responsible for each of its members, a class in which the gradations of rank and official relationship are clearly defined and should be firmly maintained."

All officers are necessarily specialists, except those who, as indicated by their title—general officers,—have, through superior ability, education and opportunity, obtained a comprehensive knowledge of all branches of the service, and have thereby fitted themselves to be directors. Cavalry, artillery, infantry, engineers, signal, medical,—indeed, each of the arms, corps and departments,—demands special knowledge and training, and an intimate acquaintanceship with all is necessarily possible to but few officers.

The medical officer, like other officers, is a military specialist; his duties are both administrative and executive, and his work demands many qualifications, varied knowledge, and especially in active service an exact military training.

The executive medical officer has been thus described. He must be prepared to practice all branches of the medical profession; and he must in addition possess a variety of other knowledge peculiar to army conditions in order to be a thoroughly efficient officer. He should be acquainted with the science and application of hygiene as regards bodies of men in all climates; the preparation of various technical returns and reports; and the nature and uses of all the armamentaria of the medical department, not only of fixed hospitals, but of the lines of assistance in active service. He must know the regulations bearing upon the management of the sick, and his own relations to other parts of the military service. He must be familiar with the duties and responsibilities which devolve upon him as the commander of the various medical units, and be capable of undertaking the management and instruction of the hospital corps and the nurses' corps. Such a man must necessarily be of robust constitution to enable him to resist the exposures and vicissitudes of active service, during which his duties are particularly arduous, and he should possess high moral qualities, which will command the respect of those with whom he is associated, and the esteem and confidence of his patients.

The administrative medical officer is developed from the

executive officer, in which latter position he should have had large experience and demonstrated his fitness for administrative duties. He must be prudent, sagacious, ready in emergency, prompt, and thoroughly imbued with habits of military discipline and the importance of his department.

It is equally true of the medical as of the combatant officers that those who have conducted themselves best in subordinate positions will almost always prove successful in superior places, for such will usually possess circumspection and judgment in control, the ability and decision of character which will impress their commanders with respect for their opinions and advice, the professional knowledge and administrative tact which will procure willing obedience and excite zeal among their officers and men,—these are the qualities which Longmore well says mark the successful administrative medical officers.

Surely it must be apparent from the foregoing that the medical officer can only result from special training and experience, and that his functions are essentially military, though not militant. Speaking of this fact, a distinguished medical officer of the British army in unmistakable language invites his brother officers and the world to an appreciation of the vast difference between the work of the civil and military physician. He says: "However attractive and charming may be the life of the civil physician, who enters the home of his patient and simply orders a treatment to be carried out by affectionate relatives, the duties and life-work of the soldier-surgeon must be completely and entirely different. * * * * * Trained, it may be, in the same medical college, the lives of the two men are absolutely divergent, and the common title of 'doctor' given to each is wholly misleading in the case of the military officer. Not all the surgical knowledge of a Brodie or a Ferguson will take a convoy of 200 wounded soldiers from Kabul over the snowy pass of Lataband for 200 miles to Pishawar. Not all the medical science of a Jenner or a Watson will insure that in the great base hospitals of war every one of the hundreds of patients is seen and carefully attended to, cleansed, fed and cared for on a hostile shore, and shipped to England, in all the confusion and turmoil, and oftentimes, the selfishness of the base of an army in the field. My dear civil brother physician, it is true I was at the same school of medicine with you; yes, but it never taught me to work in the Soudan square and see

that others worked under me, until every man that fell was not only dressed, but fed and cared for and carried for miles off the field to a far-away tent hospital. In the crowded war transport, in the Indian camp, in the torrid heat of Suakim deserts, or in the steaming tropical depths of Malayan forests I do other, soldier, work for England than you who serve her in a civil capacity at home, and I do it far away and alone, often unaided, and far from sympathetic help. Energy, courage, self-sacrifice, devotion to duty, a soldier's heart, discipline to the yielding up of one's life under fire,—all these are needed. Life with the soldier on the choking march in the burning Soudan, in the drifting snow and freezing winds of Kabul tablelands, the burning tents in the wide, bare Indian plain,—all these things shared with the soldier separate me from you with whom I learned the physician's art. It is true I am a doctor in the civil sense, and glory in the fact, but I am a soldier of England, too, and for her and her people I have given all the devotion and all the self-sacrifice she demands of her soldier-sons, and although every man in the army denied me the title of soldier, from the chief at the head to the last recruit that joined yesterday, I reply you are wrong, and you are wrong because you do not know and you will not understand, and I appeal from the army in its prejudice, to England and her people to do justice between us, and to say if *she* denies me the title I have so justly and, I hope, so devotedly earned in her cause; for the army does not belong to the army, but to the nation that lies behind it."

The enlisted personnel of the sanitary service, non-commissioned officers and men, should be of higher intelligence than that of other branches of the army; their remuneration is more liberal, and their training covers a wide field, embracing more or less intimate knowledge of most of the general requirements of the medical department. The sanitary soldier must possess all the attributes of the soldier—good physique, intelligence, obedience, fortitude, courage and soldierly pride,—and it is the duty of the medical officers to so far as possible impart these qualities to their men.

SANITARY DUTIES.

The sanitary duties of the military medical officer are of great importance and demand on his part a broad knowledge of the science of hygiene and the art of sanitation. But as the

medical officer must from the nature of his position as a staff officer be an advisor, not an executor, these duties also demand some knowledge of the subject on the part of the officer commanding, that the recommendations of the medical officer may be intelligently weighed against each other and possibly for the moment more important considerations, and a proper middle course adopted.

While the history of warfare is replete with instances of disastrous consequences following unsanitary conditions, such had apparently come to be accepted as part of the chances of war, and it was not until the horrors of the Crimea were brought vividly before the world that military sanitation began to be studied scientifically. Of necessity this study, appealing most strongly to the medical officer, has been developed by him, and, strange to say, has come to be regarded as his special function, with the result that a scientific knowledge of the "care of troops" has not yet been widely diffused among line officers, who, of all, should be most familiar with it. The necessities of the war of Secession prompted the enactment of the law of 1862 appointing medical inspectors, who were charged with the duty of "inspecting the sanitary condition of transports, quarters, and camps, of field and general hospitals * * *," and the whole subject of sanitation gained great impetus during that war.

The return of peace and the separation of the army of the United States into small and usually healthy garrisons rendered unnecessary the enforcement of systematic sanitary inspections and reports, and these, with other important military subjects, were permitted to drop into disuse, only an annual, historical sanitary report being required. In 1874 an order was issued requiring both sanitary inspections and reports, which order is embodied in the present paragraph 1414 of the General Regulations, as follows: "The surgeon, under the direction of the commanding officer, will supervise the hygiene of the post or command, and recommend such measures as he may deem necessary to prevent or diminish disease. * * *"

After thirty years' experience of this regulation, commanding officers are but now beginning to accept the sanitary report as other than a criticism of themselves, and the scientific "care of troops" is slowly beginning to be recognized as an important part of the special knowledge of the line officer. Nevertheless

the United States army had no medical inspectors with specific power to control sanitary conditions, authorized by law during the Spanish-American war, and such sanitary recommendations as were made by medical officers could not be enforced, as they were without legal backing. So it would appear that military sanitation had actually retrograded in that service.

The medical regulations of the British army give great attention to sanitation, and prescribe with the utmost particularity the sanitary duties of the various medical officers, especially in active service, while practically nothing in anywise likely to affect the health of a command appears to be undertaken without the concurrence of the sanitary inspector.

A medical officer of that service writes: "In these days of progress and improved education, knowledge of sanitary science and of the ordinary rules for the preservation of health is almost universal among all classes; the duty, consequently, of a medical officer in advising his general or other commanding officer upon sanitary questions is much lightened and facilitated. Old prejudices are disappearing; there is less friction, and both commanding and medical officers understand each other on these points and work together for the common good of the soldiers."

THE CARE OF THE SICK AND WOUNDED.

The care of the invalid was formerly the only function of the army "surgeon," and it will of course always remain the most important of his complex duties. The military medical officer must first of all be a physician, for without the knowledge this implies he cannot satisfactorily perform any of the multifarious and apparently incompatible duties which fall to him.

The soldier-man has no diseases peculiarly his own, but the circumstances of his environment often invite to a wide dissemination of disease germs and to a severe manifestation of the infections they cause, with consequent greater mortality. "Preventable" diseases are those which cause the most part of the non-efficiency, and the largest death-rate in armies.

In peace-time especially, the diseases of any particular command are those of the neighborhood. Statistics show that in the United States army for the period 1886-95 diseases ran in frequency in the following order: First, infectious; 2nd, digestive; 3d, respiratory; 4th, nervous; 5th, cutaneous; etc. Wounds

and other injuries ranked in frequency with diseases of the respiratory organs.

The professional care of the sick is the one point of contact between the physician in the army and the physician in civil practice. They meet and understand each other's language at the bedside, in the laboratory and the operating room; they, too, share the all-embracing literature of the noblest of professions. Here their ways part, and when perchance they cross again under other conditions, the civil practitioner finds himself in a *terra incognita* the speech and customs of whose people he knows not.

Recall if you will the physician's daily routine in city or town, and compare it with the experience of the army medical officer. The former usually finds his patient comfortably housed, and resting in a comfortable bed. After the usual examination and diagnosis, he writes a prescription, which is to be filled at the neighboring pharmacy, and if necessary, he telegraphs to the nearest agency for a trained nurse. He directs a dietary which is prepared in the kitchen of the patient's house, gives such other instructions as the case demands, and proceeds to his next patient, whom he sees under identical conditions.

The medical officer sees his cases, oftentimes numbering hundreds or thousands, under the stress of military life, unsurrounded by any of the comforts of home, perhaps lying in the mud and mire, unprotected from storm and the vicissitudes of weather. He must provide the house in which his patient is to be treated; must obtain the bed upon which he is to lie; must train the druggist who is to compound the prescription he writes for drugs, which the medical officer himself must procure; he must train the nurse to whose care the patient is committed; must teach the cook who is to prepare the dietary; in fact, he must look after every material want of his patient, in addition to the professional care he is required to give him. Moreover, he must take charge of his patient's business affairs, must keep his accounts, must see that he is supplied with clothing, is regularly paid, etc. And finally he must give detailed reports of all his doings to his superior officers.

In war the soldier suffers, besides, from an epidemic of wounds and injuries, the treatment and result of which are largely determined by his environment. This treatment is often necessarily a departure from the highest standards, standards

which are made in the perfectly appointed operating rooms of permanent hospitals, and not on the battle-field, and so long as war continues it can never be otherwise.

PHYSICAL EXAMINATIONS OF OFFICERS AND ENLISTED MEN.

The physical examination of recruits is one of the most important functions of the medical department, for upon its proper performance may be said to depend the fighting efficiency of the command.

The governments of all civilized nations, especially those to whom large standing armies have become a necessity, are fully alive to the great value of the judicious and careful examination of recruits, and in one, Switzerland, the entire matter of recruitment is turned over to the Medical Department. The importance of this examination has a twofold aspect, military and pecuniary.

The Austrian regulations say that "the duty of inspecting conscripts and recruits requires the utmost skill, impartiality, and circumspection on the part of the medical officer." Prussian regulations say that this duty is one of the most difficult and responsible a medical officer has to perform and requires more knowledge than is generally supposed. The regulations of the Provost Marshal's Bureau, U. S. Army, required that the examiner "must bear in mind that it is the number of bayonets in the field and not the number of names on the rolls that determines the strength of an army."

The method of examination is substantially the same in all armies, and the regulations governing it should be strictly observed. The inspection must be made by daylight, in a well-lighted room, sufficiently large to move about in, furnished with table, chair, scales, measuring rod and tape, vision test-types, stethoscope, etc. The candidate is to be examined stripped; this requirement would seem to go without saying, but its neglect during the early days of the war of Secession has probably cost the United States millions in pensions. A report by a medical officer of that time says, that early in the war it happened to him to be present at the mustering in of several regiments of volunteers, and to make a so-called physical examination of the men comprising them. "My duty consisted in walking through the ranks with the commanding officer, to point out those disqualified for military duty. I was not permitted

to examine them stripped. During the progress I saw not a few blind, some variously deformed, and others decrepit from old age, and found it necessary to reject so many that the commanding officer was constrained to expostulate with me." One reads in current papers stories of the enrollment even of women during that war, which certainly would indicate that candidates were not stripped for examination.

The person of the recruit should be washed clean before he is presented for inspection, for, says Tripler, "it is impossible for the medical officer to ascertain the existence of certain defects that absolutely disqualify, when concealed, as they effectually may be, and sometimes are, by incrustations of filth a month old."

The candidate should be carefully inspected front, rear and head to determine any superficial defects, and thereafter put through a course of physical drill to determine mobility of joints, etc. The mouth, throat, nose, eyes, ears, testicles and arms are then examined, the superficial lymphatic glands and hernial openings palpated, the state of lungs, heart, liver and spleen determined by percussion, and the chest auscultated.

The accurate determination of vision and hearing are of great importance and no deviation from the standard should be overlooked, for a soldier who cannot see, cannot shoot straight, and one who cannot hear is useless as a sentinel.

In all armies a minimum height and weight are fixed by regulations, which, of course, vary with the country and the conditions. Experience has determined a physiological relation between height, weight and chest capacity, which in the United States army is formulated as follows: Between 64 and 67 inches in height the circumference of chest should be one half, and the weight, in pounds, twice the height; between 67 and 72 inches add one half-inch to chest measure, and above 72 inches one inch. When the height exceeds 67 inches, add 7 pounds for each inch in excess.

Unfortunately the physiological standard has been departed from in recent years, with a result that is but too plainly apparent in the mental, moral and physical qualities of the enlisted soldier both in the army of Great Britain and that of the United States. A distinguished naval surgeon says of this that "there seems to be nothing better established than that the lowering of the physical standard is invariably followed by the lowering

of the moral standard," and he further says that such lowering "in order to increase the number of enlistments does not add to the value, the strength, or the efficiency of an army and is an unnecessary waste of public money."

Upon the completion of the examination of an accepted recruit he is vaccinated, and in the United States army an outline figure-card is made. On this card, bearing an outline of the human figure, front and rear, every mark which will serve to identify a deserter, or prevent the reenlistment of the dishonorably discharged, is accurately located and described. This is, I understand, soon to be substituted by finger marks and photographs. Each peculiarity or deviation from the standard is to be noted on the enlistment papers, for, even though it is considered not disqualifying at the time of examination, it may become so later, in which event it will almost certainly be made the basis of a claim for pension.

The United States army regulations for the examination of cadets, who are, of course, in the formative physical stage, while they follow the principles laid down for the examination of recruits, differ slightly in detail, particularly as to physical proportions and vision.

It would seem that the selection of soldiers by means of a physical examination as now practiced in armies is even not yet on a thoroughly scientific basis.

No regulations are prescribed in the United States army for the examination of officers, but the routine followed is that of a recruit, and includes an examination of the urine. It should be thorough in every detail.

Soldiers are discharged from an army for various causes, one being physical disability, requiring the certificate of a medical officer, and demanding of him the utmost particularity. During the war of Secession, from April, 1861, to May, 1863, the aggregate of discharges on surgeon's certificate reached the enormous number of nearly 200,000. The possibilities of this function of a medical officer emphasize the necessity for a conscientious performance of this important duty. He must ever have in mind that his first duty is to his country, whose servant he is; his second duty is to the soldier.

Before giving a certificate of disability for discharge, the officer must decide: (1) if there be any disability; (2) if it is permanent; (3) if it is actually disabling; (4) if it is incident to

the service and in the line of duty: "malingering" is a disease very common in active armies.

The question of the origin of the disability is apparently often difficult to determine, but in the United States regulations, as they now stand, the benefit of the doubt is always given to the soldier

The pecuniary interest involved in so much of the medical officer's duties as are embraced in physical examinations is found in the fact that during the last generation the United States government has disbursed for pensions over three billions of dollars.

(To be continued.)

INTERMITTENT CLAUDICATION, DUE TO ANGIO-SCLEROSIS OF THE EXTREMITIES.

*Read at a Meeting of the Medical Society of the County of Rensselaer,
March 13, 1906.*

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Among the many and varied manifestations of angio-sclerosis, we have this group of symptoms, which was first described by Charcot in 1858, and given the name of "intermittent claudication."

This term was used to describe a condition characterized by sudden pain, stiffness, and weakness in one leg, brought on by walking, and disappearing after a few minutes rest to return when walking is resumed.

The first case described by Charcot was found to be due to an aneurism of the right iliac artery, the vessel having been occluded by a thrombus for a short distance below. He also called attention to the resemblance between this group of symptoms and a condition described by veterinarians and commonly known as "springhalt": animals suffering from this disease, after traveling a certain distance are seized with a sudden stiffness and weakness in the hind legs, which for the time become absolutely rigid. After a short rest the spasm relaxes and the function of the leg is restored.

In these animals evidences of arterio-sclerosis were found in

the bifurcation of the aorta and iliac arteries, interfering with the free circulation of the blood in the parts below as described by Bouley, 1831; Rademacher, 1838; and Böther Bath, 1839, and others.

Charcot further contributed to this subject in 1886, 1887, 1891 and 1892. Other communications from French observers appeared in 1873 by Sabourin; 1890, Delounay; 1892, Magrez; 1894, Seret, and Bourgeois, in 1897.

It was some years before this subject received attention in other countries.

Elzholz in 1892, and later Goldflam, recorded cases in Germany. In 1898 Erb gave to the profession what was probably the most masterly contribution on this subject up to that time and indeed to the present time. He demonstrated clearly that in the greater majority of cases, this condition was due to a sclerosis and consequent obliteration of the smaller arterial branches and terminals, while by Charcot and others greater importance had been attached to partial or complete obliteration of the larger arteries.

Following this contribution of Erb's many cases were reported in Germany, showing the relative frequency and growing importance of this affection. Among those reporting a large number of cases were Higier in 1900, recording 23 cases; Hagelstam in 1901, recording 7 cases and Idelsohn in 1903, recording 14 cases.

In the United States the first report of a case was made by Putnam of Boston in 1901. Dana in 1902 reported a case which undoubtedly belonged to this class, though not of the ordinary type. In his case the left leg was first involved and four or five weeks later the left arm, with complete absence of pulsation in the larger arteries, though distinctly present in the arm and leg of the other side. The diagnosis was a stoppage of the large arteries of these extremities, either by a thrombus or by spasm or both.

Other contributors of cases in this country were as follows: Riesman, 1902; Walton and Paul, 1902; Levy, 1902; Pateck, 1904, and Burr, 1904. In January, 1905, J. Ramsay Hunt read a most interesting paper on this subject before the New York Society of Internal Medicine. This paper later appeared in the *Medical Record* of May 27, 1905. In this paper the author gave a complete review of the literature to date, with

histories of four typical cases which had come under his personal observation.

As his handling of the subject was exhaustive and his description of the condition "clear cut" and complete I have taken the liberty of quoting freely from his paper in my presentation of the etiology, pathology and symptomatology of this disease.

The names applied to this condition have been almost as numerous as the contributors to the subject, but "intermittent claudication" as originally suggested by Charcot seems to be the generally accepted term.

Etiology.—The condition being chiefly dependent on arterio-sclerosis the causes favoring the development of that condition would naturally occupy first place—advanced life, alcoholism, syphilis, gout and excessive use of tobacco. Among other causes mentioned are diabetes, and local exposure to extreme cold.

Arterial compression by aneurism or truss as in cases reported by Charcot, Barth and Mannaury. Erb who recorded 57 cases attaches greatest importance to excessive smoking and exposure to excessive cold. Others, among whom are Oppenheim and Goldflam, attach greatest importance to the neurotic temperament as a factor in the vaso-motor irritability and spasm.

As with arterio-sclerosis in general this condition is much more frequent in men than women.

Pathology.—In the study of amputated extremities and five recorded autopsies the findings have been practically uniform—same sclerotic change in the arterial wall causing a diminution in the caliber of the vessel and consequent interference in the circulation. All forms of arterial change have been met with, such as obliterating endarteritis of Friedlander, senile calcification, the arterio-sclerosis of Gull and Sutton, and the periarteritis nodosa of Kussmaul and Maier. These conditions may or may not be accompanied by thrombosis or obliteration.

As these changes in the arteries are frequently present without "intermittent claudication," another most important factor must be considered. That is a condition of vaso-motor irritability causing spasm of the arteries of the extremities, such as is familiar to us, in flushing and sudden pallor of the face and coldness of hands and feet due to sudden emotion. Another factor, however, must not be lost sight of, and that is the increased demand upon the circulation of the part during activity.

Thus the pathology might be summed up in the majority of cases in a few words, angio-sclerosis, to which is added a condition of vaso-motor irritability determining this particular group of symptoms.

Charcot attributed the trouble more to disease of the larger arterial trunks, but Erb demonstrated quite clearly that it is usually due to an obliterative arteritis of the end arteries, and that vaso-motor spasm is an important element in causing the attack.

Symptomatology.—There is a general agreement among observers as to the symptoms in a typical case, but there are many variations from this type picture which undoubtedly come under this same head.

The patient may be perfectly comfortable when the limbs are at rest, though they often complain of coldness or numbness of the extremity. On motion, as in walking, when the legs are involved, the patient may start off all right, but gradually a feeling of pain, stiffness, weakness and paresthesia of the affected leg comes on and gradually increases in severity with continuance of exercise. Finally further progress becomes distressing or even quite impossible. After a period of rest the patient may again resume the walking, but with a gradual return of the symptoms, until the point of tolerance is again reached, which interval may vary from a few minutes to one-half hour, depending upon the severity of the case.

At the beginning of one of these attacks the patient usually complains of a sense of weight, weakness and coldness of the affected leg. These sensations increase and are accompanied by a sense of pain which gradually becomes more severe as muscular activity is continued. Painful cramps and muscular spasm follow, as in the case of the horse with the "spring halts." Not infrequently in these cases locomotion becomes quite impossible from intense pain and rigidity of the muscles.

While the above is the usual history of a paroxysm, quite different symptoms have been complained of in individual cases, as "a sensation of water rushing through the leg," "scalding and burning sensation," "a dull ache," a "bursting feeling in the calf of the leg," etc., but the characteristic feature is the intermittent character of the symptoms, subsiding during rest and increased upon muscular activity.

Inspection of the feet and legs especially after prolonged

muscular effort usually reveals evidence of circulatory disturbance. They are usually cold to the touch and frequently congested and swollen, with evidence of mottling or cyanosis. In the more advanced cases of approaching gangrene there may be intense burning pain in the toes, which may be glossy red or purple.

Objective changes in the pulsation of the arteries of the foot are of great importance. In most cases the pulsation in the posterior tibial and dorsalis pedis, one or both, is absent or weaker than normal. Absence of pulsation even in the popliteal has been frequently reported in these cases and by some observers is considered to be of the greatest diagnostic value.

To determine the constancy of the pulsation of these arteries in other conditions not presenting this group of symptoms Erb examined 750 cases of all ages and suffering from various ailments, with a positive result of ninety-nine per cent. Other observers have carried out similar investigations on a smaller number of cases with practically the same results.

With the same object in view I have, through the courtesy of the attending physicians of the Leonard and Samaritan hospitals and a few cases taken from private practice, examined the foot pulse (posterior tibial and dorsalis pedis) in both the right and left foot in eighty cases, forty males and forty females. These cases were all of ages from fifteen months to seventy-eight years. Twenty of them were cases of arterio-sclerosis, the other sixty included a variety of other medical and surgical cases. When the pulsation was in doubt it was each time verified by some one taking the pulse at the wrist while I counted aloud the pulse at the foot. In the cases in which the pulsation was absent, this fact was verified by another physician, Dr. Hull or Dr. Sprague.

In the sixty cases exclusive of those in which there were other evidences of arterio-sclerosis I obtained a positive result of 100 per cent.

In the twenty cases of pronounced arterio-sclerosis the results were quite different. In ten of these cases the pulsation was absent in one or both of these arteries. In other words, in these cases I obtained a positive result in only fifty per cent. In four cases there was absence of pulsation in one posterior tibial or a positive result in the posterior tibials of eighty per cent of cases.

In eight of these cases the pulsation in the dorsalis pedis of one or both sides was absent or a positive result of sixty per cent.

These cases were too few to draw any positive conclusion from them.

I believe that in cases exclusively of arterio-sclerosis the foot pulses may be regarded as fixed and constant—but I also believe that absence of pulsation in one or both of these arteries in cases of general arterio-sclerosis, is not such an infrequent symptom as the reports of some observers would indicate.

Diagnosis.—The absence of pulsation in these vessels is not so frequent that this symptom is not of diagnostic value when found in connection with the above mentioned group of symptoms, namely pain, stiffness, weakness and paresthesia of the leg due to muscular effort and disappearing with rest. The intermittent character of the symptoms, increased with muscular effort and associated with arterial changes and circulating disturbances are the chief diagnostic points.

Prognosis.—Unfavorable as regards complete recovery, but the symptoms frequently remain stationary or improve for a time under proper treatment.

Treatment.—Rest is frequently the most important element. The patient should never exceed the time limit, that is the time when symptoms of claudication first appear after beginning exercise as in walking.

In a severe case complete rest in bed for a few weeks has been found to be of decided benefit.

Of internal remedies sodium and potassium iodide occupy first place as in other conditions of arterio-sclerosis.

Nitro-glycerine is also used in this condition, but from my personal experience with its use in other conditions of arterio-sclerosis, I would consider it of doubtful value.

In the presence of other neurotic symptoms bromides are indicated.

Of local measures the following are most important: keeping the parts well protected from the cold, local hot salt water baths and galvanism.

REPORT OF CASE.

The patient is a male, 89 years of age and has a remarkable strong constitution for a man of his age. He comes of a very long lived family, his mother living to be over 100 years of age. I was able to obtain

no family history of gout, rheumatism or grave mental or nervous disease.

Patient has always enjoyed exceptionally good health, and has been temperate in all his habits. He has drunk one glass of hot Scotch whiskey at bed time for 13 years, what he calls his "night cap." Never used tobacco in any form and there is no specific history. His temperament is sanguine. For the past four or five years has had a chronic bronchitis, with acute exacerbations from time to time, which confine him to his bed or room for three or four weeks at a time. Also in later years has had some trouble from intestinal indigestion and flatulency in the lower bowel. Has been troubled for years with coldness of the legs or, as he himself describes, his "shins would get cold." For this reason he has worn woolen leggings summer and winter for the past ten or fifteen years. Has frequently had painful cramps in the muscles of the calves of the legs, which would awaken him from his sleep and would often be so severe that he would jump out of bed and rub the muscles and walk about, when cramps would soon disappear.

Present trouble. About May 1st, 1905, first noticed what he described as "an aching sensation" and numbness in the muscles of the front of the thigh and calf of the left leg, which would come on after walking a short distance and especially in climbing stairs. After rest it would disappear to again return upon exertion. At first he only noticed it in climbing stairs when the last two or three stairs were reached. It continued to grow worse until it would come on after climbing two or three stairs and grow quite painful before top of the stairs was reached. In walking on the level at first it only came on when taking long walks, but later would begin to trouble him after walking less than one-half block. After resting he could start off all right, and would feel as well and strong as ever, but if walking was continued the aching sensation would gradually come on and grow more severe.

He first consulted me about July 1 regarding this trouble. When asked to describe the pain, he said it was like what was called "growing pains" when he was a boy.

He also complained of a sensation of numbness of three toes, beginning with great toe of left foot, with painful contraction of the extensor tendon of this toe at times.

There was also numbness of the two larger toes of the right foot and for past two weeks had noticed what he described as "a slight aching sensation" in muscles of the calf of the right leg on exertion.

Physical examination.—Heart sounds normal, no murmurs; pulse varies from 60 to 70, full, strong and readily compressible; slight thickening in radial and temporal arteries, no calcareous deposits. Examination of nervous system negative except for diminished knee jerk on both sides, though still present. Sensation over lower extremities is normal. Examination of urine negative. No apparent muscular weakness. No apparent muscular atrophy or muscle quivering. Leg marked with areas of discoloration due to dilatation of capillary veins. Feet and legs cold to the touch, left being perceptibly colder than right. No oedema.

Pedal arteries.—Pulsation in posterior tibials present on both sides, but the left is appreciably weaker than the right, and is detected with difficulty. Popliteal pulsation also weaker on left side.

Dorsalis pedis.—Right, weak pulsation, detected with difficulty. Left, pulsation absent, though examined on several occasions.

Patient was instructed never to exceed painless limit in walking. Given potassium iodide grs. xv. t. i. d. Massage and galvanism were tried, but apparently without result. The hot salt water foot baths seemed to be of service.

July 29th.—Up to two days previous to this time trouble had seemed to improve. Two days ago did more walking than usual and since that time "aching sensation" came on more frequently and after only moderate exertion.

Pulsation of pedal arteries same as before except that right dorsalis pedis was also absent.

November 1st.—Decided improvement. Can again climb stairs quite comfortably, the old aching sensation only coming on when the last stair or two have been reached and then not severe. Can walk five or six blocks with comfort. But if he exceeds his limit for a day or two trouble returns as severe as before.

Left post tibial still weaker than right. Dorsalis pedis absent in left leg; present in right. Complains of what seems to be a neuritis of the right upper arm which condition is also present in a lesser degree in the left arm. No difference in radial pulsation of two sides. No other evidence of circulatory disturbance in hand or arm.

January 1st.—Condition of legs remained about the same as in November. Condition of arms unimproved, though I had tried various external and internal remedies.

Remarks.—The etiological factor in this case was undoubtedly the advanced age of the patient. The diagnosis was based upon the intermittent character of the symptoms—increased upon motion and disappearing with rest; the changes and absence of pulsation observed in the foot arteries with coldness, numbness and other evidence of local circulating disturbances.

While a cure could not be expected the condition has improved under treatment.

OSTEOMYELITIS OF THE FEMUR.

Read before the Medical Society of the County of Albany, December 13, 1905.

By GEORGE GUSTAVE LEMPE, M. D.,

Instructor of Anatomy, Albany Medical College.

The patient, M. H., aged 33, presented the picture of a well nourished robust young woman, about five feet seven inches in height and about 165 pounds in weight. She had been treated for rheumatism of the right knee for three days before I saw her. There was a slight tenderness around the knee joint. The color

of the skin was normal and no swelling or enlargement of the joint was apparent. She had been unable to walk for three days on account of pain in the joint. Her pulse was slightly above normal and her temperature was 99° F. Urine normal. The patient was very nervous and hysterical at times. Her previous history, excepting an attack of typhoid, twelve years ago, was negative. Her condition remained the same for two weeks, excepting occasional attacks of severe pain, which occurred during the day or night, becoming especially intense when excited or nervous from any cause. A possibility of its being a case of neuromimesis or hysterical simulation of joint disease came to my mind.

At the end of the third week, her condition being the same, I requested a thorough examination of the knee under a general anæsthetic, which was not granted. Certain bladder symptoms, a severe vaginal discharge, and an enlarged and tender ovary or tube, which led me to suspect a gonorrhoeal infection might have been cleared up if patient had been examined under an anaesthetic. About the middle of the fourth week the knee began to enlarge and grow very painful, especially above the patella. The pain extended down the tibia and above to the middle of the femur. Temperature and pulse were slightly above normal during the day. At night the temperature would reach 101.8° F. and the pulse varied from 100 to 120. Pain was more severe at night than during the day. Hot applications of any kind would increase the pain. Leucocyte count gave 16,100. The leg was held in a slightly flexed position and any movement was impossible. The skin over the joint became red, inflamed and oedematous, and fluctuation in the joint was apparent. The oedems extended upward as far as the hip. I advised aspiration with a probable subsequent exploratory incision, but the patient would not consent. The next day I called Dr. Neuman to see the patient. He advised aspiration of the joint and examination under a general anaesthetic with a probable subsequent opening of the joint. Aspiration failed to reveal any fluid although palpation apparently indicated its presence. The patient was removed to the hospital. On opening the joint the cartilages were found enlarged and the joint filled with large gelatinous masses; the ligaments were torn from their attachments and the muscles were dark red, almost black in color. The lower end and shaft of the femur crumbled under slight pressure as far as the middle

third of the shaft. The head of the tibia was in the same condition. A large mass of gelatinous material was found back of the joint in the poplital space. Pockets containing from three to six ounces of pus were found in the soft tissues surrounding the shaft of the femur. The patella was loosened from its attachment. The leg was amputated in the upper third of the shaft of the femur. An Esmarch was not used on account of oedema of the thigh, hemorrhage being controlled by digital compression. The patient died the same night.

The Bender Laboratory reported as follows: *Anatomical Diagnosis*: Osteomyelitis of the femur, involving knee joint and tibia. *Microscopic diagnosis*: Acute osteomyelitis.

Different names have been given to designate the onset and course of acute osteomyelitis such as acute spontaneous osteomyelitis; malignant osteomyelitis; acute explosive osteomyelitis, etc. In acute spontaneous multiple so-called malignant osteomyelitis the changes of structures are very rapid and destructive and may occur in from a few days to a few weeks. The medulla is disintegrated and becomes gangrenous. The neighboring joint becoming involved, necrosis of a large portion of a bone sometimes of the whole shaft takes place, as in the case just recited. Surrounding parts become gangrenous, the veins contain thrombi and pyemic infection and abscesses may form in different parts of the body. The infection may involve the lungs, kidneys, pleura and pericardium. In cases of this kind death sets in after a few weeks, months, or even in a few days. They almost always end fatally. This form of osteomyelitis affects the femur according to v. Bruns in thirty-nine per cent. of all cases of acute spontaneous osteomyelitis, the lower end being the seat of choice.

Etiology. The direct cause of acute osteomyelitis is always an infection by some pyogenic bacterium. Most frequently found is the staphylococcus pyogenes aureus, or sometimes the staphylococcus albus or citreus. In a few cases the streptococcus pyogenes, the typhoid bacillus and the pneumococcus were found respectively. In others we have a mixed infection. (Nichols). The point of entrance is either a small suppurating wound, acne pustule, furuncle, felon, eczema, abscess or an abrasion of the mucous membrane in the mouth or nose, especially any inflamed spot of the tonsil or the nose. A few cases are supposed to have received their infection through the respiratory

and intestinal tracts. Ponfick has shown that infection has been carried through inflammation of the mucous membrane of the middle ear. I might mention here that Fraenkel has found in the red bone marrow in the various infectious diseases, bacteria of these diseases. The negative blood findings in these cases did not exclude positive marrow findings. The micro-organisms may lie slumbering for months or years in the marrow and only need a slight stimulus, such as a slight injury or a secondary infection from the nose, throat or lungs, to lead to a typical case of osteomyelitis. This may explain why in so many cases of osteomyelitis the source of infection could not be established heretofore. We know that osteomyelitis may be recurrent after ten, fifteen, or even twenty-five years. The inflammatory material remains latent or encapsulated, becoming active from trauma or secondary infection of some kind. After typhoid fever the local lesion in the bone seldom begins until months or even years after the infection. The specific bacillus of diphtheria had been found in one instance in the bone marrow. In a great number of cases the streptococcus following diphtheritic invasions of the throat has been found. In scarlet fever the streptococcus was found in nine out of ten cases. In three cases of scarlet fever the staphylococcus pyogenes aureus was found in addition. Two cases have been reported so far where anaerobic bacilli were found in osteomyelitis. Helferich observed in 141 cases of osteomyelitis the following order of frequency of occurrence: tibia sixty-six per cent.; femur, forty-five per cent.; humerus, twenty per cent.; radius, six per cent.; fibula, four per cent. The growth coefficient has been established by v. Langer as follows: femur, 4.38; tibia, 4.32; humerus, 3.97; radius, 3.83; etc. This would coincide with the frequency of occurrence of osteomyelitis in the bones mentioned, except that of the tibia which may be explained by the fact of the tibia, being subcutaneous, it is thus more exposed to injury. In seeking a cause for the frequency with which one bone is more often affected than another, we find that in the rapidity of growth and the strain brought to bear on the bone. Looking at the place or portion of bone most frequently affected we find in one hundred and forty-one cases lower end of femur, .40; upper end of tibia, .29; middle of tibia, .19; lower end of tibia, .18; upper end of femur, .3; middle of femur, .2, etc.

Lexer, in working out the circulation of the bone, claims

that he can state the cause of the now well-known localization of pyogenic and also tuberculous osteomyelitis. (By injecting an emulsion of turpentine and mercury into the large arteries of a bone in its fresh state the various arterial trunks in the bone are filled, and an X-ray negative may be taken which gives an excellent picture of the arterial circulation.) He found three groups of arteries in the long bones of the new born and in children the diaphyseal, the metaphyseal (on both sides of the epiphyseal line), and the epiphyseal, the bone near the epiphysis receiving branches from all three groups. He found that the older the bone becomes the finer are the arteries in relation to the size of the bone. These three groups of arteries are found up to the termination of the so-called bony growth, i. e., adult life. In adult life he finds the diaphyseal group of arteries growing smaller and smaller. The epiphyseal and metaphyseal arteries decrease in size less in proportion, whilst the arterial supply of the joint becomes more marked. This would explain why bone lesions are most frequently found in infancy and youth, and joint lesions in the adult. The majority of pyogenic osteomyelitic foci are due to an embolic process, i. e., clumps of bacteria travel from the primary infected area in some other part of the body, and are carried to the bone through the circulation. If the embolus is large it blocks the diaphyseal artery, if small it is carried to the smaller or terminals of this artery and creates a focus of infection near the epiphysis. When the embolus plugs an epiphyseal or a metaphyseal artery the focus is confined to the area supplied by the plugged artery, and this explains the frequently observed wedge-shaped focus in the early stage of osteomyelitis in the epiphysis. Osteomyelitis of the femur occurs most frequently between the eighth and seventeenth year, the period of most active growth, and is rare in childhood and middle life. Men are more commonly affected than women, in the ratio of four to one.

The symptoms are those of severe septic infection, but vary according to the intensity of the inflammatory process. Initial chill, increasing severe pain, swelling, edema and diffused redness, with high continuous fever, 102° - 104° F., A. M. and 104° - 105.8° F., P. M., the symptoms often pointing to disease of the bone.

Differential Diagnosis. Diseases most frequently mistaken for acute osteomyelitis are acute tuberculosis of the joints, acute

articular rheumatism and typhoid fever. Tuberculosis of the knee is not infrequently confused with acute osteomyelitis, but, as a rule, the course of the disease is more subacute. The diagnosis often can be made only at the operation. Tuberculosis of the joint usually begins in the epiphysis of the long bones, whilst osteomyelitis almost always begins in the diaphysis or shaft. Cases have been reported recently of primary tuberculosis of the diaphysis (v. Bergmann). Acute articular rheumatism affects as a rule more than one joint, although monarticular rheumatism is not uncommon. The usual early marked redness and oedema of the soft parts and the almost constant bone tenderness in osteomyelitis may allow an early differentiation. In the case reported above these symptoms did not appear till the end of the third week. *Gonorrhoeal rheumatism* may affect one joint, and the early symptoms being severe may be mistaken for acute osteomyelitis, especially when the history of the case is not obtainable and the effusion into the joint is of a purulent nature. We know that a non-gonorrhoeal synovitis may occur during gonorrhoea. Aspiration in gonorrhoeal inflammation of the knee has shown gonococci in about sixty per cent. of cases but only up to the sixth day of the disease. Later aspiration failed to show gonococci where they had been previously shown. In some cases gonococci have been cultivated from the fluid in the joint.

Acute purulent synovitis may be confounded with osteomyelitis or may accompany osteomyelitis of the epiphysis. The clinical picture is similar to acute osteomyelitis of the lower end of the femur and upper end of the tibia.

The pain and local symptoms, the high leucocyte count, as well as the very sudden onset, and the absence of the Widal reaction, usually allow us to differentiate between typhoid fever and acute osteomyelitis. In children if the patient is in a complete stupor, as frequently occurs in severe cases of osteomyelitis, it may be mistaken for typhoid. The differential diagnosis of some forms of osteomyelitis from a syphilitic knee is often as difficult in individual cases as from tuberculous or rheumatic arthritis.

The severest cases with fever like that of typhoid or with symptoms of a severe infection with separation of the epiphyses, suppuration in the knee joint and involvement of a large part of the entire shaft of a bone, are almost always fatal.

Nichols says: "Any extreme pain in the bone with or without swelling should always lead to a consideration of acute osteomyelitis."

Editorial

The winter of 1881 was a peculiarly hard one, and band after band arrived starving, in rags, and willing to work for food, for clothes. They came in such numbers that Bethel could not keep them all,—the most needy, the most starving, were those asked to stay. "Would to God," said a hungry vagrant bitterly, "Would to God we too were epileptic, then you would keep us!" That went to the pastor's heart. "I will try and keep you—find work for you," he said, and he went prospecting.

A Colony of Mercy.

JULIE SUTTER.



After Care of the Insane

After care for the insane which has so long been systematically carried on in European countries has as last been established in this country in the State of New York by the State Charities Aid Association in co-operation with the State Commission in Lunacy and the managers and superintendents of the State hospitals. The ultimate aim of this work is the prevention of relapses by assisting patients to re-adjust themselves to the ordinary conditions of life after their discharge from hospital care. It is felt that a systematic effort should be made to inquire into the circumstances and home surroundings and influences of patients leaving hospitals for the insane and endeavor to prevent a return to the conditions which have brought on the original mental break-down, and are likely to delay or prevent a complete and permanent recovery. Assistance in procuring suitable employment, in getting into normal and healthful social relations with the community to which the patient returns, and such other methods of friendly aid as seem to be required by the individual patient, are offered by those who undertake this work. The State Charities Aid Association visits the State hospitals for the insane throughout the State and its visitors have an opportunity to acquaint themselves with the needs of the patients after leaving the hospital, as well as while under treatment. The plan of organization is to establish an After Care Committee in each hospital district, these committees co-operating with and working under the direction of a sub-committee on the After Care of the Insane, appointed by the Association's Standing Committee on the Insane. The Manhattan, Willard and Hudson River After Care Committees have already been organized, and the central sub-committee, which has charge of the work, employs

an agent to assist the members of these committees in visiting the homes of patients discharged, recovered or about to be discharged, and in assisting them to secure employment or in other ways in which help or counsel may seem to be required. This work seems likely to have important results in the prophylaxis of mental disorders, and it is to be hoped that this example established in the State of New York may be followed in other states by the organization of similar societies.

The following resolution was introduced at the annual meeting of the American Medico-Psychological Association held in Boston, June 12th to 15th, and unanimously adopted:

WHEREAS, The State Charities Aid Association of New York has recently established a Committee on the After Care of the Insane to work in co-operation with the State Hospitals for the Insane in that State, and to provide temporary assistance, employment and friendly aid and counsel for needy persons discharged from such hospitals as recovered, and

WHEREAS, In the opinion of the American Medico-Psychological Association, it is very desirable that there should be carried on in connection with all hospitals for the insane such a system of after care, therefore,

RESOLVED, That the American Medico-Psychological Association expresses its gratification at the inauguration of this movement in the State of New York, and its earnest hope that similar work may be undertaken for hospitals for the insane generally.

Little Biographies

VII. FALLOPIUS, 1523-1563.

GRABRIELLO FALLOPIO, usually known as Fallopius, was not only one of the most distinguished anatomists of the sixteenth century, but also together with Vesalius of Brussels, and Eustachius of Rome, enjoyed the title of "the great restorers of anatomy."

The exact details of his early life are not known and this accounts for the contradictory statements found in the different biographies. He was descended from a noble Italian family of that name and was probably born about the year 1523 at Modena, and not thirty-three years earlier as stated by several biographers. He died at the early age of forty in the year 1563. Hutchinson

describes him as a man having "a strong and vigorous constitution, with vast abilities of mind which he cultivated by an intense application to his studies in philosophy, physic, botany and anatomy." While he was interested in all branches of medicine, he applied himself especially to the study of anatomy and it is the work in this subject which gave him his greatest reputation. He studied medicine under Antonio Musa Brasavola at Ferrara and beside traveled extensively, visiting many of the celebrated anatomists of that time, such as Madius, Columbus, Cananus, Ingrassias and others.

Italy honored him in many ways. He was known as the "Æsculapius of his century." The University of Pisa appointed him professor of anatomy in the year 1548, and three years later the Senate of Venice called him to occupy the chair of surgery, anatomy and botany at Padua, to succeed Vesalius; where he remained until his death in 1563.

Only one of his works was published during his lifetime, *viz.*, his *Observationes Anatomicæ*, Venice, 8vo., 1561. According to Fisher this is considered one of his most valuable works "containing as it does most of his discoveries and his animadnumerous corrections of the errors into which his distinguished versions on the words of other anatomists and particularly his predecessor Vesalius had fallen." His collected works were first published at Venice in the year 1584, and later editions followed; the 1606 edition, "embraced twenty-four treatises distributed in three folio volumes, containing in all over 1,500 pages." (Fisher.)

In osteology, he was the first to describe accurately the bony system of the foetus and the epiphyses of the long bones. He also understood the osseous portion of the ear better than any of his predecessors and from him are named the aqueductus and hiatus Fallopii.

He first described the muscles of the soft palate, and the ligament which has erroneously been attributed to the French anatomist, Poupert. His contributions in angiology and neurology were not as important as those in osteology, myology and splanchnology.

He first described the villi and valvulæ conniventes of the small intestine. On account of his accurate studies of the female pelvic organs the Fallopian tubes were named after him, but unjustly for they had been previously described by Herophilus over three hundred years before Christ.

Hutchinson states that "He practised physic with great success and gained the character of one of the ablest physicians of the age." Portal claims that he was as great a surgeon as he was an anatomist. In his surgical works many subjects are considered; the treatment of wounds in general and especially those of the different organs; the use of ligatures; dislocations; ulcers, their classification and treatment; the various surgical operations and their indications and contraindications. He has described an instrument for paracentesis. He reported a case of ankylosis of several of the vertebra and another of a fungoid growth from the brain.

Besides being Professor of Anatomy and Surgery at Padua, he was also Professor of Botany and superintendent of the botanical gardens of that city and in honor of him as a botanist, a genus of plants (*Fallopia*) has been named.

Much has been written about Fallopius as an anatomist, surgeon and botanist, but little about him as a man. Portal states that he was amiable, affable and in no way presumptuous; he published his own discoveries in a very modest manner and treated the mistakes of others with consideration. He always had the greatest respect for Vesalius, his teacher. In fact he had all the good qualities one desires to see in a learned man and which is not always found.

Quite a different picture of Fallopius has been portrayed by others as shown by the following quotation from Willis in his life of Harvey (referred to by Fisher): "Fallopius showed himself at all times so adverse a critic of Vesalius, that he seems to have been animated by something like personal hostility toward him. Fallopius had for many years been engaged obscurely, but usefully, as preceptor in the anatomical theatre at Padua, and probably looked to the professor's chair as his rightful inheritance, when Vesalius was appointed over his head. * * * Smothered dislike broke out at length into open enmity, which is unhappily transmitted to us in the writings of Fallopius." "This same spirit is said to have been shown toward his contemporaries generally." (Fisher.)

JOHN A. SAMPSON.

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Scientific Review

THE CEREBRO-SPINAL FLUID IN HEALTH AND DISEASE

THE DIAGNOSTIC AND THERAPEUTIC VALUE OF LUMBAR PUNCTURE.

(Concluded from ANNALS of June, 1906, page 454.)

Before giving the indications for this procedure, it may be well to consider first the immediate and remote effects of lumbar puncture on the general condition of the patient. The operation is perfectly harmless if performed properly and rarely causes distressing symptoms. At the time of operation, patients may complain of vertigo and sometimes a syncopal attack may be observed.

Later there may be an intense frontal headache lasting even a week, vomiting of the cerebral type and constipation—a triad which may suggest meningitis.

Usually such symptoms do not occur; at most do we hear of slight headache and nausea, pains in the legs which rapidly disappear. In the great majority of cases no symptoms whatever develop.

Certain authors have given the very worst picture of the after-effects of lumbar puncture, such as hemorrhage, haematomyelia, purulent meningitis and even death in cases of tumor, meningitis and uraemia.

At any rate, serious manifestations are extremely rare and most of the unpleasant though mild symptoms may be avoided by keeping in mind certain facts: Not operate on elderly persons and the least possible on hysterical women (who invariably complain of intolerable headache during three or four weeks). Patients having tabes and general paresis are excellent subjects. The needle should be of fine calibre, so as to avoid a too rapid fall in the intra-cranial pressure. The fluid should never be aspirated. The patient should remain in bed at least twenty-four to forty-eight hours, especially if symptoms present and caffeine and other cardiac stimulants may be administered. Particular care must be taken in cases of tumor and especially in tumors of the cerebellum, where strictest attention should be paid to a slow removal of fluid, so as to avoid an abrupt relief of pressure which causes intense con-

gestion ex-vacuo with subsequent rapid increase of intracranial tension and compression of the nerve centers. In cerebral abscess, in uraemia and in cases of marked arteriosclerosis, the same precautions should be taken.

In the various forms of meningitis, but especially in purulent meningitis, lumbar puncture does seem beneficial in many cases and good results have been reported by Rieken, Jansen, Netter, Nobécourt and du Pasquier, Donath, Cook, Mathieu, Bauer and Mauban and many others. How much the operation accomplishes in effecting a cure in such cases and might not the evolution have turned favorably without intervention, are, of course, legitimate questions. It would seem that in resistant patients, the repeated removal of moderate quantities of such toxic material, would appreciably multiply the chances of recovery. The procedure is least valuable in tubercular meningitis. Lumbar puncture should certainly be resorted to whenever symptoms of compression present and will usually afford relief. This palliative effect deserves some consideration.

In hydrocephalus, lumbar puncture would accomplish more than any other disease according to many authors (Quincke, Ziemssen, Lenhartz, Goldscheider, Peters, Mya, Concetti, Chipault, Oppenheim, Brasch, Henschen, Seiffer, Hirsch, Gross, Pilcz, etc.). An appreciable and even a lasting amelioration has been observed. It relieves the headache, gastric disturbances and convulsions which are not infrequent and is particularly valuable when paralysis of the ocular muscles and visual disorders due to an optic neuritis are present. Under such circumstances the operation should be frequently performed and only a moderate amount of fluid removed each time.

According to Milian, lumbar puncture is very useful in the treatment of syphilitic headache and is particularly effective in the headache of secondary syphilis.

In inoperable tumors of the brain, lumbar puncture often affords much relief and should be recommended whenever intense headache and visual disturbances occur. It is well known that the headache of cerebral tumor may be so severe as to remain uninfluenced even by morphine and the hypertension of the cerebro-spinal fluid invariably present can be considerably diminished by lumbar puncture. The headache will then usually disappear at least in great part and the chances of the optic neuritis and atrophy will be much lessened.

These facts have been recently brought out by Babinski, Brissaud and Souques, Widal and Digne and others. In Widal's case the tumor was situated in the cerebellum and the results of the puncture were most satisfactory, yet it cannot be too strongly emphasized that of all tumors, those of the cerebellum are most liable to cause serious accidents. The fourth ventricle is the first cerebral cavity affected during lumbar puncture and a rapid outflow of fluid may bring about the sudden compression of the vital centers beneath its floor and lead to a fatal issue. The operation rarely presents any danger when performed for the relief of symptoms caused by tumors situated in other parts of the brain.

Charvet and Barcel have recently reported a case of tumor of the frontal lobe in which visual acuity increased fifty per cent. within six hours after the removal of twenty cubic centimeters of the fluid.

The nervous complications of uraemia have been materially helped by removing fifteen to thirty cubic centimeters. Delirium and convulsions disappeared completely after two lumbar punctures in the case published by Vigouroux.

Merlin and Devaux report the interesting case of a child of four years, an idiot who had never walked and who suffered from frequent convulsive seizures. Lumbar punctures were performed, the convulsions gradually disappeared and the child has begun to walk.

Babinski has widely used lumbar puncture as a valuable therapeutic procedure in diseases of the ear, especially in the treatment of vertigo.

He reports the following results:

(a) Twenty-one of thirty-two cases of vertigo have been greatly improved or even cured. In seven cases the cure had maintained itself six months later.

(b) Tinnitus aurium has either diminished or entirely disappeared in thirty of ninety cases.

(c) Deafness has been ameliorated in only thirteen cases out of 100.

Lumbar puncture acts best when the labyrinth alone is involved.

Lumineau, Mignon and others also claim to have obtained good results.

Bertolotti reports three cases of whooping-cough with asso-

ciated nervous manifestations of severe type: pupillary inequality, bradycardia, and violent convulsions. Lumbar puncture brought about complete cessation of the symptoms in two of the three cases.

According to Devraigne, the removal of from three to ten cubic centimeters of cerebro-spinal fluid is very useful in the meningeal hemorrhage of the new-born.

The procedure should only be resorted to when marked symptoms occur, such as cyanosis, contracture, convulsions and coma. The operation may be repeated two or three times if necessary.

Sub-arachnoidean hemorrhage is also an indication for lumbar puncture and very good results have been obtained by many (Brailion).

In traumatism and fracture of the skull, lumbar puncture has acquired much vogue in Paris within the last three years; it has been extensively employed and its utility has been recognized by the majority of French surgeons.

Quenu has reported seven cases of fracture in which daily punctures were performed; all of the seven cases recovered. The author thinks that in such cases the hypertension is relieved and the amount of blood re-absorbed is considerably diminished, the puncture thus doing away with the two most important factors in the causation of coma and delirium. Potherat has also reported cases where a cure has been effected. Terrier, Guinard, Rochard, Demoulin, Boutier and many others equally approve of the method and think it useful.

LA SALLE ARCHAMBAULT.

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Births.....	46
Marriages.....	28
Still births.....	8
Premature births.....	3

BUREAU OF CONTAGIOUS DISEASES.

Cases Reported.

	1902	1903	1904	1905	1906
Typhoid fever.....	7	2	1	1	3
Scarlet fever.....	10	13	15	8	19
Diphtheria and croup.....	22	23	1	8	18
Chickenpox.....	22	19	3	2	0
Measles.....	29	168	21	129	3
Whooping-cough.....	2	1	0	0	3
Consumption.....	1	2	4	0	3
Total.....	93	228	45	140	49

CONTAGIOUS DISEASE IN RELATION TO PUBLIC SCHOOLS.

	Reported		Deaths	
	D.	S. F.	D.	S. F.
Public School No. 1.....	7	1	..	..
Public School No. 2.....	1	..	..	..
Public School No. 5.....	1	..	..	..
Public School No. 7.....	..	2	..	..
Public School No. 11.....	..	1	..	..
Public School No. 15.....	1	..	..	..
Public School No. 17.....	..	3	..	..
Public School No. 21.....	..	1	..	..
Public School No. 22.....	1	..	..	..
High School.....	..	1	..	..
St. John's School.....	..	2	..	..
Miss Cooper's.....	..	1	..	..

Fumigations:

Houses.....	3	Rooms.....	64
Cases of diphtheria reported.....			18
Cases of diphtheria in which antitoxin was used.....			15
Cases in which antitoxin was not used.....			3
Deaths after use of antitoxin.....			0

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

In the Bureau of Plumbing, Drainage and Ventilation there were two hundred thirty-nine inspections made of which one hundred ninety-one were of old buildings and forty-eight of new buildings. There were fifty-three iron drains laid, eighteen connections with street sewers, twenty-one tile drains, thirteen urinals, forty-three cesspools, one hundred twenty-five

wash basins, seventy-eight sinks, ninety-six bath tubs, fifty-seven wash trays, ten trap hoppers in yard, one hundred fifty-five tank closets, one slop hopper, one stable wash stand, one shower bath. There were one hundred thirty-six permits issued, of which ninety-seven were for plumbing and thirty-nine for building purposes. There were twenty-eight plans submitted of which eleven were of old buildings and seventeen of new buildings. There were four houses tested on complaint, two with the blue, red and two with peppermint. There were ten water tests made and there were forty-two houses examined on complaint. There were one hundred twenty-three reinspections of the same and twenty-four complaints were found to be valid and eighteen were without cause.

Society Proceedings

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

A regular meeting of the Medical Society of the County of Albany was held in the Albany Medical College, April 11, 1906. The meeting was called to order by the president at 8.55 P. M. There were present Doctors Bedell, Bielby, Baldauf, Curtis, Cook, George, Hinman, Jenkins, Laird, Lempe, Lomax, Moore, C. H., O'Leary, Papen, Sr., Rooney and Wiltse.

Dr. CURTIS read the report of the Committee on Revision of the By-Laws.

Dr. ROONEY moved that the by-laws be presented to the annual meeting for adoption. Seconded and carried.

The Secretary read the applications for membership of Doctors Vines, Filkins and Silcocks, which were ordered referred to the Board of Censors.

Dr. HINMAN then read his paper upon the Diagnosis of Adenoids, which will be published in the ANNALS.

Dr. JENKINS said that he had been surprised at the frequent presence of adenoids in young children. He said that he knew of nothing worse than a child with this condition. He said that these cases were those in which brilliant results might be frequently obtained by prompt operative intervention. He felt that the subject was one which demanded the very careful attention of the general practitioner.

Dr. WILTSE said that he knew of no other operation which gave better results than this operation for adenoids; he had seen the whole character of a child changed remarkably in this manner.

Dr. CURTIS said that he hoped it would not seem to the writer of the paper that the society did not appreciate the importance of his contribution because of the slightness of discussion. He felt that it was simply due to the fact that the field had been so thoroughly covered by the writer that the matter practically precluded discussion.

Dr. ROONEY then read his paper on Enteroptosis with a summary of one hundred and eighty-two cases.

Dr. LEMPE said he had had quite a little experience in women with enteroptosis; the symptoms were in many cases very deceptive and the disease very rebellious to treatment.

Dr. LOMAX questioned the manner in which perineal lacerations would prove to be a factor in the causation of enteroptosis. It seemed to him, from study of the abdominal cavity, that the point of pressure was rather against the anterior abdominal wall than in the perinaeum and at the same time, the pelvic cavity being so completely filled with the genital apparatus in women prevented the displacement of the abdominal organs simply by a weakening of the pelvic floor.

Dr. COOK said that one of the most interesting things that he had heard at a recent medical society meeting was, that these different displacements were caused by relaxation of the perineal musculature.

Dr. BEILBY said that it had seemed to him that the condition of lacerated perinaeum might be explained by the descent of the pelvic viscera, giving place to the abdominal viscera. When the pelvic viscera are displaced, the abdominal organs prolapse. He referred to the treatment of gastrop-tosis by the operation of gastroplication.

On motion the society adjourned.

JAMES F. ROONEY, *Secretary*.

The annual meeting of the Medical Society of the County of Albany was held in the Albany Medical College, May 8, 1906, at 8.30 p. m.; the president in the chair. Present: Doctors Adt, Baldauf, Bristol, Bedell, Ball, Blair, Blessing, Craig, Curtis, Cox, J., Capron, Carroll, Classen, Cook, Davis, C. E., Dawes, Devoe, Filkins, George, W. H., Giffen, Gutman, Griffin, E. G., Hale, W. S., Happel, Hinman, Holding, Hacker, Jenkins, Joslin, Keens, Lempe, Laird, Lewi, Lochner, Lomax, Lipen, Lanahan, J. A., Leavy, Moston, Mosher, Mereness, Moore, C. H., McGarahan, McHarg, McKenna, Munson, Neuman, O'Leary, Jr., Perry, Papen, Sr., Root, Rooney, Sabin, Sampson, Sautter, Schutter, Sheldon, Steenberg, Stevenson, Stillman, Theisen, Traver, Trego, Vander Veer, E. A. Van Rensselaer, Van Slyke, Vines, Ward, Winne, C. K., Winne, L. B. Washburn, Wiltse.

Dr. LIPES moved that the reading of the minutes be dispensed with. Seconded and carried.

Dr. CURTIS made the final report of the Committee on Revision of the By-Laws.

Dr. WARD moved that the report of the committee be received and accepted and the committee discharged. Seconded and carried.

Dr. BALL moved to amend Chapter 2, § 3, of the recently adopted by-laws, to read as follows: "Initiation fee shall be three dollars, which shall cover the county dues for the current year." Seconded.

Dr. NEUMAN said that it seemed to him that the initiation fee should not be reduced from five dollars to two dollars; if we cut down our receipts it would be impossible to give any social character to the future meetings

of the society, as had been anticipated. It seemed to him that this subject should be very carefully considered.

Dr. BALL then moved that the by-laws as revised by the committee be adopted by the society, with the exception that the chapter which he had moved to amend, making the initiation fee three dollars, be changed to read: "The initiation fee shall be five dollars, which shall cover the state dues for the current year," at the same time withdrawing his former amendment. Seconded and carried.

Dr. ROOT reported on behalf of the Legislative Committee. He felt that it might be known to many of the members present what a difficult year this had been concerning legislation on medical subjects; but he also felt that many of the members did not and could not appreciate the amount of work which was necessitated by every local committee and also by the committee from the State Society. The year had been one of the most trying in the eleven years that he had served upon the legislative committee; the crop of special bills, legislating into the profession men entirely unfitted for its duties; special bills for the licensing of men in special subjects which were purely medical, and bills to endeavor to destroy the present enactments, had been large. Two of these bills very narrowly failed of passage. It was thought that last year's fight against the osteopaths was a serious one, when the bill failed of passage in the senate by only one vote. This year the bill actually passed the senate and in the assembly was referred to the committee on public health where, fortunately and with much labor, it was kept until the end of the term. At the end of the term, all bills lying in special committees are referred to the committee on rules and here this bill remained until the session was closed. The optometry bill was only at one time in danger of passing and this danger was caused by the inactivity of the profession throughout the state. In fact; the greatest danger which we meet is the passiveness of the the profession in matters which directly interest it. If from all parts of the State physicians manifest their opposition to any measure, that opposition will be completely effective.

One bill was reported from the committee on public health which would solve the entire difficulty. This bill gives the most explicit, concise and exclusive definition of the practice of medicine and, at the same time, provides for one State board of examiners, who are to be appointed by the Regents, which shall be composed of nine members, and before this State board shall come all applicants for medical licensure, whether regular, homeopathic or eclectic. This bill also failed of passage because of the inactivity of professional support and at the same time because of opposition on the part of the homeopaths and eclectics. The bill, however, will be re-introduced at the next session and it is trusted that the profession will become sufficiently alive to the importance of this matter, and by their support secure its enactment. He also recommended that this society place itself on record in favor of this bill and advocating its passage.

Dr. BALL moved the adoption of Dr. Root's report and also the adoption of his recommendation. Seconded and carried.

The Secretary reported that the Board of Censors had favorably considered the applications of Doctors Silcocks, Vines, Filkins and Devoe.

Dr. COOK moved that the secretary cast one ballot for the election of these men as members of the society. Seconded and carried.

The Secretary declared the ballot cast and the president declared Doctors Silcocks, Vines, Filkins and Devoe elected members.

Dr. COOK moved that the city make some provision for bacteriological examinations of material from patients too poor to pay the cost of such examinations. He said that other cities did this, and he didn't know why Albany should not do the same.

Dr. CRAIG said that, for some time past, the city had given the profession the privilege of sending sputum from suspected cases of tuberculosis to the laboratory for examination, the cost of which was a city charge. He felt, also, that a large number of the profession were aware of this and he knew that many had taken advantage of it.

Dr. COOK said that he, for one, did not know this and, in fact, in several instances had received bills from the laboratory for examinations of this sort, which he himself had paid.

Dr. LAIRD said that, although not now officially connected with the laboratory, he knew that in Dr. Blumer's time the city had made provision for sputum examinations and the reason that Dr. Cook received the bills was, that it was customary for the laboratory to send out bills in all instances and only when the physician reported inability to pay was the bill made a city charge.

Dr. WARD moved that the matter be referred to a committee of three, of which Dr. Craig and Dr. Cook should be two. Seconded and carried.

The President named Dr. Ball as the third member of this committee.

Dr. BALL moved that five hundred copies of the revised by-laws be printed, for the use of the members of the society. Seconded.

Dr. MACFARLANE moved to amend, that the secretary be directed to mail a copy to each member of the society. The amendment was accepted and the motion carried as amended.

Dr. MOSHER moved that a committee of five be appointed to consider the expediency of changing the mode of electing officers. It seemed to him that nominations should be made in advance; so that the society could contemplate carefully the men who were to be elected. He also moved that all elections should be had by printed ballot, mailed in advance of the annual meeting to each member, who could then return the marked ballot, to be deposited at the poll. The motion was seconded and carried.

The President appointed on such committee Doctors Mosher, Ward, Craig, E. A. Vander Veer and Curtis.

The Secretary read a communication from the Kings County Medical Society in reference to their means of raising funds for the men in the profession who had lost everything in San Francisco.

Dr. THEISEN moved that the society start a subscription for the members of our profession who have suffered loss in the disaster. Seconded.

Dr. MACFARLANE said that several former members of our society had suffered, among whom he mentioned Dr. Blumer and Dr. Lartigau, who had lost everything.

Dr. ROONEY moved that the secretary send out subscription blanks to each member of the society and that the treasurer be empowered to receive contributions, which should be forwarded to the treasurer of the San Francisco County Society. Seconded and carried.

The President then read his annual address.

Dr. MACFARLANE moved that the thanks of the society be extended to Dr. Wiltse and that a copy of his address be requested for publication in the ANNALS. Seconded and carried.

Dr. ROONEY moved that a committee of three be appointed to audit the treasurer's report. Seconded and carried.

The President appointed as such committee Dr. Washburn, Dr. L. B. Winne and Dr. C. E. Davis.

Dr. CURTIS spoke of the conflicting interests of some of the private societies in detracting from the attendance at the meetings of the county society. While he felt that these were advisable and necessary, it seemed to him, however, that they should be subsidiary to the county society. He felt that much was needed to stimulate interest in the meetings of the county society and that the burden of this would better fall on one of the younger men. For this reason, he took great pleasure in nominating for president of the society Dr. G. G. Lempe. Nomination seconded.

Dr. MOSHER said that there was one member of the society who was one of the older members and who had not yet served in the office of president. He felt that the older men should at least have the opportunity of enjoying the presidency of the society. He then presented the name of Dr. Case, of Slingerlands, which was seconded.

The Secretary moved that the President appoint two tellers to conduct the ballot. Seconded and carried.

The President appointed Doctors Mosher and Craig.

Balloting was then had and the tellers announced the result of the ballot; Dr. Lempe, 35; Dr. Case, 19.

The President then declared Dr. Lempe elected president for the ensuing year.

Dr. NEUMAN nominated for the office of Vice-President Dr. Montmarquet of Cohoes. Nomination seconded. Nominations closed.

Dr. CRAIG moved that the secretary cast one ballot for Dr. Montmarquet for Vice-President. Seconded and carried.

The Secretary declared the ballot cast and the president declared Dr. Montmarquet elected Vice-President for the ensuing year.

Dr. TRAVER proposed for the office of Secretary the present incumbent.

Dr. ROONEY declined.

Dr. ROONEY then proposed the name of Dr. A. T. Laird for Secretary. Nomination seconded. Nominations closed.

Dr. GEORGE moved that the Secretary cast one ballot for Dr. Laird for Secretary. Seconded and carried.

The Secretary declared the ballot so cast and the president declared Dr. A. T. Laird elected secretary for the ensuing year.

Dr. ROOT proposed for treasurer the name of Dr. W. H. George. Nomination seconded. Nominations closed.

Dr. NEUMAN moved that the secretary cast one ballot with the name of Dr. George for treasurer. Seconded and carried.

The Secretary declared the ballot so cast and the president declared Dr. W. H. George elected treasurer for the ensuing year.

For censors there were nominated Dr. S. B. Ward, Dr. H. E. Mereness, Dr. A. Vander Veer, Dr. Hinman, Dr. Craig, Dr. Neuman, who declined, Dr. Curtis, Dr. Traver, Dr. Archambault, Dr. Lomax, Dr. Moston, Dr. Mosher and Dr. Carroll.

The tellers reported as the result of the ballot that the five highest number of ballots cast were for Doctors Ward, Curtis, Craig, Vander Veer and Mereness and they were declared elected.

The committee appointed to audit the treasurer's report reported the accounts correct.

The Secretary moved that the report of the committee be accepted and the committee discharged. Seconded and carried.

On motion the society adjourned.

JAMES F. ROONEY, *Secretary.*

Medical News

Edited by Arthur J. Bedell, M. D.

THE ALBANY GUILD FOR THE CARE OF THE SICK.—STATISTICS FOR MAY, 1906. Number of new cases, 104; *Classified as follows:* Dispensary patients receiving home care, 1; district cases reported by the health physicians, 7; charity cases reported by other physicians, 64; patients of limited means, 32; old cases still under treatment, 49; total number of patients under nursing care during the month, 153. *Classification of diseases (new cases):* Medical, 21; surgical, 8; gynecological, 3. Obstetrical work of the Guild—33 mothers and 32 infants under professional care; eye and ear, 1; skin, 2.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 2; attending obstetricians, 1; medical students in attendance, 4; Guild nurses, 6; patients, 3; number of visits by head obstetrician, 20; by attending obstetricians, 1; by the medical students, 9; by the Guild nurses, 30. Total number of visits for this department, 60.

Visits of Guild Nurses (all departments): Number of visits with nursing treatment, 1,019; for professional supervision of convalescents, 180; total number of visits, 1,199. Six graduate nurses and 6 assistant nurses were on duty. Cases were reported to the Guild by three of the health physicians and by 35 other physicians and by 1 dentist.

EXAMINATION FOR THE MEDICAL CORPS OF THE ARMY—A preliminary examination of applicants for appointment in the Medical Corps of the Army will be held at various military posts throughout the United States on July 31, 1906. Full information in regard thereto may be obtained from the Surgeon General of the Army, and applications must be filed prior to June 30. Thirty years is the prescribed maximum age, and persons whose age exceeds that limit are not eligible for examination.

UNITED STATES CIVIL SERVICE EXAMINATION—Hospital Interne (Male). Examination for Panama Canal. The United States Civil Service Commission announces an examination on July 5-6, 1906, to secure eligibles from which to make certification to fill vacancies in the position of hospital interne (male) under the Isthmian Canal Commission, on the Isthmus of Panama, as they may occur.

As an insufficient number of eligibles to meet the needs of the service resulted from the examination held on December 6-7, 1905, for this position, qualified persons are urged to enter this examination.

Men only will be admitted to this examination, for which two days will be required.

Each applicant for the Isthmian Canal Service will be required to submit to the examiner, on the day he is examined, a recent photograph of himself, taken within three years, which will be filed with his examination papers, as a means of identification in case he receives appointment.

An unmounted photograph is preferred. The date, place, and name of examination, the examination number, the competitor's name, and the year in which the photograph was taken should be indicated on the photograph.

Age limit, 20 to 30 years on the date of the examination; salary, \$100 per month, with quarters, but without board and washing.

Only graduates of reputable medical schools having not less than a three years' course will be admitted to this examination.

The examination will consist of the subjects mentioned below, weighted as indicated:

- 1 Letter-writing (the subject-matter on a topic relative to the practice of medicine), 5;
- 2 Anatomy and physiology (general questions on anatomy and physiology, and histologic or minute anatomy), 10;
- 3 Chemistry, materia medica, and therapeutics (elementary questions in inorganic and organic chemistry; the physiological action and therapeutic uses and doses of drugs), 15;
- 4 Surgery and surgical pathology (general surgery, surgical diagnosis; the pathology of surgical diseases), 20;
- 5 General pathology and practice (the symptomatology, etiology, diagnosis, pathology, and treatment of disease), 25;
- 6 Bacteriology and hygiene (bacteriologic methods, especially those relating to diagnosis; the appli-

cation of hygienic methods and prophylaxis and treatment), 15; 7 Obstetrics and gynecology (the general practice of obstetrics; diseases of women, their pathology, diagnosis, symptoms, and treatment, medical and surgical), 10. Total, 100.

This examination is open to all male citizens of the United States who comply with the requirements.

The county officer's certificate in the application form need not be executed. No person will be appointed for service on the Isthmus who is not physically sound and in good health. Persons appointed to positions under the Isthmian Canal Commission will be expected to proceed promptly to the Isthmus. Persons examined for positions under the Commission will not be eligible, as the result of such examination, to positions in the United States or Philippine services.

Applicants should at once apply either to the United States Civil Service Commission, Washington, D. C., or to the secretary of the board of examiners at any place mentioned in the accompanying list, for application Form 1312. The medical certificate in form 1312 must be filled in by a reputable practicing physician. No application will be accepted unless properly executed and filed with the Commission at Washington. In applying for this examination the exact title as given at the head of this announcement should be used in the application.

As examination papers are shipped direct from the Commission to the places of examination, it is necessary that applications be received in ample time to arrange for the examination desired at the place indicated by the applicant. The Commission will therefore arrange to examine any applicant whose application is received in time to permit the shipment of the necessary papers.

THE UNITED STATES CIVIL SERVICE COMMISSION announces the postponement to July 5-6, 1906 (in view of the small number of applications filed), of the examination scheduled for June 6-7, to secure eligibles from which to make certification to fill at least two vacancies, at \$600 per annum each, with maintenance, in the position of medical interne, Government Hospital for the Insane, Washington, D. C., and vacancies as they may occur in any branch of the service requiring similar qualifications.

The Department states that it reserves the right to continue or terminate appointment at the end of one year, or to promote the appointee at the expiration of that length of service.

The examination will consist of the subjects mentioned below, weighted as indicated:

1 Letter-writing (the subject-matter on a topic relative to the practice of medicine), 5; 2 anatomy and physiology (general questions on anatomy and physiology, and histologic or minute anatomy), 15; 3 Chemistry, materia medica, and therapeutics (elementary questions in inorganic and organic chemistry; the physiological action and therapeutic uses and doses of drugs), 10; 4 Surgery and surgical pathology (general surgery, surgical diagnosis; the pathology of surgical diseases), 20; 5 General pathology and practice (the symptomatology, etiology, diagnosis, path-

ology, and treatment of disease), 25; 6 Bacteriology and hygiene (bacteriologic methods, especially those relating to diagnosis; the application of hygienic methods and prophylaxis and treatment), 10; 7 Obstetrics and gynecology (the general practice of obstetrics; diseases of women, their pathology, diagnosis, symptoms, and treatment, medical and surgical), 15. Total, 100.

Two days will be required for this examination. Men only will be admitted.

Age limit, 20 years or over on the date of the examination.

This examination is open to all male citizens of the United States who comply with the requirements.

Applicants must indicate in answer to question 15 of the application form, that they are graduates of reputable medical colleges.

Applicants should at once apply either to the United States Civil Service Commission, Washington, D. C., or to the secretary of the board of examiners at any place mentioned in the accompanying list, for application Form 1312. No application will be accepted unless properly executed and filed with the Commission at Washington. In applying for this examination the exact title as given at the head of this announcement should be used in the application.

As examination papers are shipped direct from the Commission to the places of examination, it is necessary that applications be received in ample time to arrange for the examination desired at the place indicated by the applicant. The Commission will therefore arrange to examine any applicant whose application is received in time to permit the shipment of the necessary papers.

THE NEW HARVARD MEDICAL SCHOOL—Invitations have been issued by the president and fellows of Harvard College and the Faculty of Medicine to the dedication of the new buildings of the Harvard Medical School on Tuesday afternoon and Wednesday morning, September 25th, and 26th, 1906.

THE QUARTERLY JOURNAL OF INEBRIETY—The office of publication of the Journal of Inebriety, of which Dr. T. D. Crothers is editor and secretary, has been transferred from Hartford to Boston, at 194 Boylston street.

PERSONAL.—DR. GEORGE S. MUNSON (A. M. C., 1880) announces that his office is closed from June 20th to September 15, 1906, owing to his absence in Europe.

—DR. WHITTLESEY D. LESTER (A. M. C., 1899) is in practice at Indian Fields, Albany County, N. Y.

—DR. JOHN E. CANFIELD (A. M. C., 1903) is in practice at Herkimer, N. Y.

DEATH.—DR. GEORGE W. DRAPER (A. M. C., 1858) died at Syracuse, N. Y., June 8, 1906, aged seventy-three years.

In Memoriam

ISAAC G. WHEELER, M. D.

Dr. Isaac G. Wheeler, one of the oldest physicians of Buffalo, died at his home, 346 Fargo avenue, May 22, 1906, at the age of seventy-three years. Dr. Wheeler was active in his practice until a week before his death, when he was seized with his last illness.

Isaac G. Wheeler was born in Buffalo in 1832. His father was Isaac Wheeler, one of the early settlers in that vicinity, and both father and son spent the greater part of their lives in this city. As a young man Dr. Wheeler chose the profession with which he was always identified, and graduated from the Albany Medical College with the class of 1874. He returned to his home and built up an extensive practice. Of late years he had not been as active as formerly on account of failing health, but he had always kept his office and continued his work.

Dr. Wheeler was at one time active among the Masonic orders of Buffalo and was also a member of the A. O. U. W.

Beside his immediate family Dr. Wheeler is survived by two brothers, William F. and Alger M. Wheeler, and a sister, Mrs. Frank Catlin of Oregon. His wife, now deceased, was Cornelia B. Noye, who was also of one of the old families of Buffalo.

JAMES E. KELLEY, M. D.

Dr. James E. Kelley, one of the active physicians of Saratoga, died at his home in that village on May 14, 1906. Death resulted from a complication of diseases and followed an illness of five months. Dr. Kelley was first stricken in the winter, but recovered from that illness partially. The improvement was only temporary, and for the last two weeks of his life he failed rapidly. He was forty-two years of age.

Dr. Kelley was a man of varied talents. After his graduation from the Schuylerville High school, he studied law in the office of Delcour S. Potter, and was admitted to the bar. He also was at one time a student at Union College. Instead of continuing in the legal profession, Mr. Kelley taught school for a while, then began the study of medicine and graduated from the Albany Medical College in 1901. He began practice in Schuylerville and returned to Saratoga about three years before his death.

Besides his widow and two children, Dr. Kelley is survived by his mother, Mrs. Ann Kelley of Schuylerville; two sisters and one brother, Dr. C. D. Kelley of Mt. Vernon, N. Y.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

A Treatise on Surgery. In two volumes. By GEORGE R. FOWLER, M. D., Examiner in Surgery, Board of Medical Examiners of the Regents of the University of the State of New York; Emeritus Professor of Surgery in the New York Polyclinic, etc. Two imperial octavos of 725 pages each, with 888 text illustrations and 4 colored plates, all original. Philadelphia and London: W. B. Saunders Company, 1906. Per set: Cloth, \$15.00 net; half morocco, \$17.00 net.

"In presenting a new work on surgery the author has endeavored to bring together the most recent and improved methods of surgical practice and with the aid of numerous cross references, to arrange these in a form readily available to the student and practitioner. As a necessary preliminary to this, the so-called art of surgery, the effort has been made to set forth the fundamental principles underlying what is known as the science of surgery in both an interesting and instructive manner." The above is the opening paragraph to the preface of Dr. Fowler's "A Treatise on Surgery."

The work is in two volumes and is divided into two parts. Part I is devoted to General Surgery and Part II to Regional Surgery.

In common with most works on Surgery the first subject to be considered is that of Inflammation, but the arrangement of the topics discussed under that head differs from that of the usual text-book in such a manner as to merit special attention.

Inflammation, as viewed from the surgical standpoint, is that series of changes in the tissues which takes place as the result of injury plus infection. In the absence of infection and during the repair of an injury, however, the processes considered are histologically identical with those concerned in inflammation. But the differences in degree and extent are such as to stamp the one as a pathologic process and the other as a physiologic process. The study of the phenomena will therefore naturally commence with the injury itself. The first topic to be taken up is, therefore, Wounds.

Writing of the symptoms of wounds the author says: "Contused wounds are the most painful of injuries. Individual temperament may also modify the amount of pain. Courageous persons and those in a ferocious rage, on the one hand, and those exercising a quiet self-control on the other, suffer the least, for these conditions act as restraining influences on the sensory cortical centers."

Healing by primary and secondary intention are described, after which the Histology of the Healing Process is discussed at some length.

Inflammation in General is the next general topic. Here the various forms of inflammation such as exudative, suppurative and gangrenous, phlegmonous and granulating are discussed. This is followed by the Etiology of Inflammation, under which head the subject of Surgical Bacteriology is taken up.

General Diagnosis of Inflammation, Termination and Prognosis of

Inflammation and Surgical Fever, are the next topics to be considered and in the order named. The last topic in the section is the Treatment of Inflammation and here, very appropriately, under the head of Preventive Treatment, are discussed the various methods of modern aseptic operative technic.

Section II treats of the Injuries and Diseases of Separate Tissues.

Section III, Gunshot Injuries, is up to date and is profusely illustrated with photographs of cases observed in the Russian-Japanese war.

Section IV discusses Acute Wound Diseases such as septicaemia, pyemia, tetanus, hydrophobia, etc.

Section V takes up the Chronic Surgical Infections, syphilis, tuberculosis, etc. In the treatment of tuberculosis of the extremities, mention is made of Bier's method of treatment by chronic passive congestion. The method of application of the treatment is well shown by a photograph.

Section VI is devoted to Tumors. The various types of tumors are discussed in a hasty manner, very little pathological anatomy is given and some very poor histological drawings are added, making this section one of the least useful in the book.

Section VII on Laboratory Aids in Surgical Diagnosis and Prognosis treats of a subject which is daily becoming of more interest and importance. The author seems to fully appreciate the important bearing of this subject to Surgery. "Successful surgery demands prompt and accurate diagnosis and to this end laboratory examinations frequently offer conclusive proof on corroborative evidence of much value. With the great advances in surgical skill and the consequent improved statistics of surgical procedure, the question of prognosis has also become more important, and laboratory aids form no mean part in reaching conclusions in this regard. The brilliant outcome of laboratory diagnostic methods in some cases may lead the novice to attempt to make a definite diagnosis with the microscope and test tube at the expense of clinical methods. This is a grave error—the diagnosis must be made at the bed-side, and the results of laboratory works considered for what experience teaches they are worth, just as the clinical signs and symptoms are considered." The important laboratory aids to diagnosis are presented in a concise and interesting manner. The gross examination of pathological specimens and their preservation is discussed. The importance of careful histological examination is emphasized; special mention being made of the rapidity and accuracy that may be obtained by the use of frozen sections. The clinical significance of blood changes is carefully taken up.

The attitude of the modern surgeon toward the subject of urine examination is summed up in the author's opening paragraph on that topic: "In consequence of the increased value of this procedure during late years, its technic has undergone change and improvement. At one time the clinician believed that, when he had found the specific gravity, had tested the urine for albumin and sugar, and had made a hasty microscopic examination of the sediment, he had exhausted all practical information to be obtained from this complex fluid. To-day an examination of this kind is not considered sufficiently exhaustive to meet the exacting demands of the expert diagnostician." There follows a discussion of the

newer methods of examining urine including cryoscopy, induction of artificial glycosuria, etc.

Section VIII has for its topic Surgical Operations in General.

Section IX, Surgical Anaesthesia, discusses the various anaesthetics, the methods of administration, dangers, etc. Scant space is given to local anaesthesia and spinal anaesthesia; most valuable and recent work along which lines has been carried out in Bier's clinic.

Section X takes up the General Principles of Operative Technic.

Section XI treats of the Operations on Individual Structures. Writing of the transplantation of nerves the author makes the statement that the implantation of completely separated portions of nerves has never been successful in man. Recent work has, of course, disproved this statement.

Section XII is on Foreign Bodies.

Section XIII, the last section of part I, is devoted to bandaging.

There are three more sections in the first volume, but these come under the head of Part II, Regional Surgery. The sections are as follows: Section XIV, Surgery of the Head; Section XV, Surgery of the Neck; Section XVI, Surgery of the Thorax.

Such is a very brief outline of the first volume of Dr. Fowler's surgery. The author has called his book "A Treatise on Surgery." He does not claim for it a complete surgery or a text-book of surgery. The chief criticism is, that in a work of this character, certain sections must of necessity be slighted. The sketchy character of the work cannot but be noted at times. There is a marked absence of surgical anatomy and surgical pathology. Many of the new fields in Surgery receive but scant notice; such for example, as the surgery of the heart and lungs and the surgery of the nervous system and brain.

The object of the book as set forth in the above mentioned preface would seem to have been carried out for the most part. The subject matter has certainly been presented in an interesting and instructive manner. The field of surgical publications would seem to be already well covered, but this work justifies itself by the fact that it has a distinct individuality. This individuality is shown first, in the logical grouping of topics, differing from that usually employed, and second, in the illustrations. The illustrations are numerous, well chosen and well-produced. They are all new. It is a great relief not to find reproduced the old classical pictures which have been handed down from author to author from time immemorial. The book is printed on good paper with clear type. Altogether this is a work of merit and one which should be welcomed alike by student, the practitioner and the specialist. J. M. B.

A Text-Book of Diseases of Women. By BARTON COOKE HIRST, M. D.
Second edition, rewritten and enlarged with 701 illustrations, many of them in colors. Philadelphia: W. B. Saunders & Company, Publishers, 1905.

It must be admitted that there is need for authoritative works in gynecological pathology and the diagnosis of gynecological conditions, and also on the treatment, both operative and otherwise, of these con-

ditions. On the other hand there are too many text-books in which there is an attempt made to cover the entire subject in one treatise and which the author apparently feels that he must write not because he has anything new to present, but because his position in some institution demands it. Consequently additions to this already over-crowded field, by new text-books or the resurrection of previous ones by new editions, is not welcome, unless it be the question of the "survival of the fittest."

The present volume of 741 pages and 701 illustrations represents a second edition in which there has been added to the previous one, fifty-seven pages of text; and thirty of the old illustrations have been removed and forty-seven new ones introduced.

The first part is devoted to gynecological examinations and local treatment; then follows in succession, consideration of the anomalies of development, diseases of the vulva, vagina, uterus, tubes, ovaries, pelvic connective tissues, urinary tract and finally a chapter on the technique of gynecological surgery. The volume is compact and the subject matter well arranged and indexed. The illustrations in most instances show what the author wishes to emphasize, the photographs being especially instructive while some of the others are not quite so good.

On the whole this text-book is one of the best of its class and for this reason can be recommended.

J. A. S.

A Treatise on the Diseases of Infancy and Childhood. For Students and Physicians. BY HENRY KOPLIK, M. D., Pediatricist to Mt. Sinai Hospital, Ex-President American Pediatric Society, etc., New York. New (second) edition. Revised and enlarged in text and illustrations. Octavo, 868 pages, 184 engravings and 33 plates. Cloth, \$5.00; Leather, \$6.00, net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

The interest of the medical profession towards the diseases and conditions peculiar to childhood is shown by the increasing number of books on the subject and by the frequent appearance of new books already published. The first edition of the volume before us came out only four years ago. The present edition has been thoroughly revised and in places entirely rewritten so that we find a new friend with face and raiment that are familiar. It contains two hundred and ten additional pages and many new illustrations. The arrangement of the chapters has been changed into a more satisfactory and systematic order. The author shows that he has profited by the criticisms invoked by the first edition and he has been thorough, painstaking, and conscientious in this new edition which has resulted in a volume creditable to American pediatrics.

The first section on the hygiene of infancy and childhood contains thirty more pages than in the previous edition and the chapter devoted to the methods of examination is especially to be commended. The section on infant feeding is entirely new. No division of pediatrics

exceeds in importance that of infant feeding and the author has presented the subject in a concise, scientific and thorough manner. The principles underlying the processes of nutrition and metabolism in the young infant are first discussed before entering upon the food question. The author has utilized the researches of the most recent German and French writers, such as Czerny and Keller and Marfan, thereby giving the American student the benefit of their studies. Proprietary infants' foods are described but advised to be used only as a temporary makeshift or to be added to milk in order to aid its assimilation. The section on diseases of the newborn is more complete. A description of congenital anomalies, mortality and sudden death in the newborn, peritonitis of the newborn, haemorrhage in the newborn, mastitis, and caking of the breasts has been added in this edition.

Acute articular rheumatism is now classed under the specific infectious diseases.

Scrofula or scrofulosis is described as a distinct disease and defined as a constitutional dyscrasia occurring in childhood characterized by enlargement of the lymph nodes and slow sluggish inflammation of the numerous membranes, skin, joints and bones. He recognizes three forms, the pyogenic, tuberculous, and mixed. All other modern American writers include scrofula under the head of tuberculosis.

The section of diseases of the skin is disappointing and unsatisfactory. Only ten pages are devoted to all the very important and common skin affections so frequently met with in children.

Particular mention should be made of the index which is very satisfactory. Its completeness necessitates thirty-six pages.

This new edition of Koplik is a book that should be in the library of every progressive medical man and it is a work that will be frequently consulted.

H. L. K. S.

The Operating Room and the Patient. BY RUSSELL S. FOWLER, M. D.
Surgeon to the German Hospital, Brooklyn, N. Y. Octavo of 172 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1906. Cloth \$2.00 net,

This is a work designed for the use of surgeons, nurses assisting at an operation, hospital internes and for all others whose duties bring them into the operating room. In a book comprising one hundred and seventy-two pages, divided into seven chapters, the author undertakes to describe his idea of a model operating room, its personnel and management, and also the treatment of the surgical patient before, during and after the operation.

Chapter I, *The Operating Room and its Personnel.* As a frontispiece, the author gives a diagram showing the relation of operating and adjoining rooms. The chapter opens with a general consideration of the operating room and its preparation for operations after which the personnel of the operating room, including costumes, duties, etc., is taken up.

Chapters II and III have for their subject, *The Instrument and Supply Room.* The care of instruments, the making of operative supplies, the

manufacture and sterilization of catgut and the preparation of gauzes, sponges, compresses, bandages, etc., are all considered in this chapter. Formulae for all the ordinary powders and solutions used in an operating room are given. Instruction in the use of the thermo-cautery and the care of rubber goods are some of the many other topics discussed. In fact there is a more or less thorough consideration of almost everything used in the operating room.

Chapter IV, The Anesthetic Room. The arrangement of the anesthetic room, its supplies, etc., are discussed, after which the duties of the anesthetist are explained. The author gives some preliminary remarks on the selection of an anesthetic and then discusses at length nitrous oxide, ether, chloroform ethyl bromide, nitrous oxid, and oxygen, nitrous oxide and ether, and the comparative new product anesthol. Spinal and cocaine anesthesia receive careful attention.

Chapter V, The Patient. This chapter deals with the treatment of the patient before, during, and after the operation. The first topic taken up is that of General Preparation. The author says, "the general preparation of the patient begins from the time he is admitted by the home surgeon." Other topics discussed are local preparation, preparation just previous to leaving for anesthetic room, position of the patient for various operations (well shown by numerous photographs), application of dressings, etc. This is one of the most interesting and instructive chapters in the book.

Chapter VI, The General Consideration in the After Treatment. The author says: "A successful issue in many cases depends upon the care which is exercised in the after treatment. The surgeon's responsibility does not end with the laying down of the scalpel, but continues until healing is complete." Post-operative vomiting, pain and thirst, together with a consideration of the diet, catheterization of the patient, temperature and pulse, are some of the many subjects referred to.

Chapter VII gives lists of the articles required for various operations.

Such is in brief an outline of the work. The subject matter is presented in an attractive manner and the book is well printed and well illustrated. It has been written more particularly for nurses, but can be read with great profit by both internes and surgeons.

System in the operating room is something to be greatly desired. It causes everything to run smoothly and enables the surgeon to work fast and sure in cases of emergency. The sad experience of having an operating room staff get "rattled" is a lesson not soon forgotten. The remedy is in having a perfect working system. As the author says, "There should be no confusion in the operating room. Each person should be thoroughly acquainted not only with his or her duties but also with the duties of others employed in the operating room."

Not all operating rooms have the same methods. Methods may differ widely and yet have a high grade of excellence. The author has limited himself to the discussion of one method of operating room technic. As a consequence, this work is of value more especially to individuals associated with an operating room employing the method in question, but nevertheless, it is a very readable and instructive book.

J. M. B.

The Examination of the Function of the Intestines by Means of the Test-Diet.

Its Application in Medical Practice and its Diagnostic and Therapeutic Value. By PROF. DR. ADOLF SCHMIDT, Physician-in-chief of the City Hospital Friedrichstadt in Dresden. Authorized Translation from the latest German Edition by CHARLES D. AARON, M. D., Professor of Diseases of the Stomach and Intestines in the Detroit Post-Graduate School of Medicine; Clinical Professor of Gastroenterology in the Detroit College of Medicine; Consulting Gastroenterologist to Harper Hospital, etc. With a frontispiece Plate in Colors. Crown Octavo, 91 Pages, Extra Cloth. Price, \$1.00, net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

In this little volume of ninety pages the author discusses his method of determining the functional power of the intestines by means of examination of the feces after a test meal. The examination of gastric contents after test diet is a familiar diagnostic procedure, and, in consequence of its widespread employment, we know much more concerning the pathology of the stomach than we do in regard to the conditions present in disorders of the intestines.

The author's method of examining feces, briefly stated, is as follows: A test diet consisting of milk, zweiback, eggs, butter, beef, potatoes and oatmeal in definite amounts is given for three days, or at any rate until a stool is obtained, which comes with certainty from this diet. Generally this is obtained in the second or third defecation.

The examination is made as soon as possible, and requires only very simple apparatus and can usually be completed within ten minutes. It includes the *macroscopic examination* which the author considers the most important part of the whole procedure. A small amount of the excrement is ground in a mortar, in the meantime being reduced to a fluid consistency by the addition of water. The ground-up specimen is then spread over a flat black plate in as thin a layer as possible. In a normal specimen a very few brown points smaller than pin heads appear which are remains of the test meal. Under pathologic conditions there appear mucus, remains of connective tissue, of muscular tissue, potato remains and large crystals of ammonia magnesium phosphate. Large numbers of connective tissue remains indicate gastric indigestion, while the muscles remains point to a disturbance of intestinal digestion. Pus, blood segments of tapeworm, etc., may be found but are not discussed in detail by the author. In the microscopical examination three separate specimens are studied, one without the addition of any reagent, another to which strong acetic acid is added and the specimen heated, a third treated with a solution of iodine and potassium iodide. Pathological elements are: Well preserved muscle fibres, starch cells, masses of fatty acid flakes, yeast cells, etc.

The chemical tests made are test of the reaction, the sublimate test and the fermentation test. If the specimen contains particles colored green by a strong solution of bichloride of mercury it is considered pathologic. These particles show the presence of unchanged bile-pigment. If in the fermentation test a considerable amount of gas is formed, there is abnormal

gas production, as only very little gas is formed from normal feces. If at the same time the reaction has become more acid, carbohydrate fermentation has occurred; if alkaline, albumin putrefaction has taken place.

The tests required as a rule do not take more than ten minutes. They should be repeated frequently, just as in the examination of stomach contents. Conditions vary from day to day, and one of the advantages of the method is that it shows ephemeral changes in digestion.

The latter half of the book is devoted to a discussion of the various intestinal disorders.

The purpose of the author to set forth a method of examination for the function of the intestines that can be carried out in practice analogous to the usual examination of stomach contents seems to have been attained, and the monograph will be of great practical value to those who wish to employ this method.

A. T. L.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery and Specialties. Edited by A. O. J. KELLY, A. M., M. D. Philadelphia, Pa. Volume IV. Fifteenth Series. J. B. Lippincott Co., 1906.

This volume contains the usual number of excellent articles on Medicine and Surgery which has characterized the *International Clinics*.

"The Treatment of Psoriasis" (with illustrations) by Wm. S. Gottheil of New York, advocates the hypodermic administration of arsenic up to the point of systemic saturation and its maintenance as near that point as possible for prolonged periods; together with the local application of tar, chrysarobin, pyrogallol or ammoniated mercury, and in sufficient strength to cause a reactive erythema of the healthy skin.

"The Treatment of Some Common Gastric Disorders," by N. B. Gwyn of Philadelphia, contains many healthful suggestions in the treatment of acute and chronic gastritis, hyperacidity, dilatation and retention.

"Empyema, With a Report of Thirty Cases," by J. N. Hall of Denver, Colorado, is accompanied by numerous drawings illustrating the source of the commoner mistakes leading to negative results in the use of the exploratory needle when collections of pus are present in the pleural cavity.

"The Thyroid Gland, Its Anomalies of Secretion and Their Manifestations and Treatment," by Thomas R. Brown of Baltimore, is a résumé of our knowledge of this gland and emphasizes the contrast between its two extremes of perverted function; inactivity causing myxedema upon the one hand; and hyperactivity producing exophthalmic goiter upon the other. The treatment of the former condition is very satisfactory while that of the latter is equally the reverse.

"The Results of Operations Such as Gastroenterostomy, etc., in the Treatment of Diseases of the Stomach," by John B. Deaver of Philadelphia. The author writes very encouragingly of the results obtained in cases of chronic indigestion such as are due to ulcers of the stomach

and their cicatrizing tendencies; he attributes the benefit to two principles: (1) rest to the pyloric end of the stomach, and (2) drainage of the stomach.

Extra-uterine pregnancy receives a large share of attention in this volume; an article upon the subject by Thomas A. Ashby, M. D. of Baltimore, reviewing in detail twenty-seven cases and another by Franklin S. Newell of Boston, who summarizes his experience of sixty others.

The number of cases coming under the observation of these surgeons is sufficient evidence of the frequency of the condition and the clinical histories present strong arguments in favor of importance of prompt diagnosis and the radical operative treatment of a dangerous pathological condition.

H. D. C.

International Medical Annual, 1906. A Year-Book of treatment. Thirty-six Editors. Twenty-fourth yearly issue. 8vo. 588 pages. Three dollars. New York, E. B. Treat & Co., 1906.

The present volume, covering the advances in medical science during the past year, though much smaller in size than its predecessor, maintains the high standard of the previous issues.

Part one is a review of the therapeutic progress for 1905, and includes not only, brief descriptions of the multitudinous new remedies but new methods of administration of the better known preparations. This section also contains a complete review of organo-therapy in relation to a number of diseases and the advances in radio-therapeutics and electro-therapeutics illustrated by a number of plates of new apparatus.

In part second, after a brief synopsis of the progress in each of the departments of medicine, the various subjects are arranged in an alphabetical manner. Among the pathological conditions treated more fully are the diseases of the breast, of the kidneys, of the stomach, insanity and goitre.

The volume is well worth a place in a physician's library and is valuable as a book for ready reference.

A. MAC P.

Man and His Poisons. A Practical Exposition of the Causes, Symptoms and Treatment of Self-poisoning. BY ALBERT ABRAMS, A. M., M. D. New York: E. B. Treat and Company, 1906.

This is a volume of something over 250 pages which, as its title indicates, assumes to give a practical view of the subject of Auto-intoxication or Self-poisoning. Chapters are devoted to a discussion of Life, Man and His Poisons, Fatigue, The Toxicology of the Emotions and Sleep, Chemistry and Physics of Thought, and Symptoms and Cure of Self-poisoning.

Anyone who takes up this volume with the idea of obtaining an accurate

and systematic discussion of the various phases of auto-intoxication will be greatly disappointed. On the other hand one who supposes that it lacks in interest is greatly in error. The work, like preceding ones by Dr. Abrams, shows a wide and catholic taste in reading, a sprightly wit, and great facility in the use of the English language. As a storehouse for a mass of miscellaneous knowledge culled (rather uncritically) from the literature of the day the work is a success, but as an exposition, practical or otherwise, of auto-intoxication it is a failure. In reading the book the interest does not flag for a moment, but one constantly finds one's self asking just where auto-intoxication comes in. All that is really said pertinent to this subject could be condensed into ten pages, but one can almost forgive the padding inasmuch as it is usually interesting and often amusing. The author is as discursive as some novelist, but unfortunately discursiveness is not quality suited to scientific literature. The work undoubtedly contains some good practical points and for this reason deserves consideration.

G. B.

Nursing in the Acute Infectious Fevers. By GEORGE P. PAUL, M. D., Assistant Visiting Physician and Adjunct Radiographer to the Samaritan Hospital, Troy, New York. 12mo of 200 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1906. Cloth, price \$1.00 net.

In this little book of 200 pages the author discusses first, the general principles of the nursing in acute infectious fevers, and second, the nursing in the various infectious diseases. In the part of the work which is devoted to general considerations are discussed such practical measures as the hygiene of the sick room, the diet of the sick, the reduction of fever, the alleviation of symptoms, and the detection of complications. Under each special disease are given synonyms of the name of the disease, the etiology, symptoms, diagnosis, care and management. The author has devoted special attention to the paragraphs on care and management as being directly related to the duties of the nurse. In an appendix he discusses such subjects as antitoxins, bacteria, urine and its examination, signs of the onset of the toxic effects of drugs, poisons and their antidotes, enemata and topical applications, antiseptics, etc. A table of weights and measures is given.

The work will undoubtedly be found a convenient one for reference in the hospital. The arrangement of each chapter is very systematic, and there is a free use of heavy type and italics in designating headings. One criticism that might be made, is that the headings are perhaps too numerous, and that the discussion of each is too brief. If used as a text-book it is possible that nurses would memorize the brief statements instead of acquiring a practical knowledge of principles

A. T. L.

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Edited by Miss Ada Bunnell, B. L. S.

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Case of Congenital Word-Blindness. (Inability to learn to read.)

J. HERBERT FISHER. *Ophthalmic Review (London)*, November, 1905.

Nettleship published five cases of congenital word-blindness allied to those described by Hinshelwood in the *Lancet* of May 26, 1900. Though the characteristic features of these cases of "inability to learn to read" must now be well known to ophthalmic surgeons, the list of examples does not expand very rapidly. Hinshelwood has published five cases in all, the last being reported at the annual meeting of the British Medical Association in 1904. For the recognition of these cases we are to a large extent dependent on the observation of parents and the answers which they give to our questions; this being so it is probable that a proportion of the cases which occur in hospital practice go unrecognized and are treated by clinical assistants as refraction cases. Hinshelwood's keen observation for the defect has enabled him to detect four examples in hospital practice.

Miss F., æt. 6, was brought to the author in October, 1904, owing to the extreme difficulty which she experienced in learning to read: she "mixed the letters up." It did not appear that she had any defect in vision for ordinary purposes: each eye had full visual acuteness, with a hyperopia in the right of 0.75 D., in the left of 1.25 D.; the right iris showed an inner sector, about two-fifths of its whole area, which was more deeply pigmented than the remainder; the eyes in every other respect were normal. She had been trying to learn to read for two years; had attended school for one term, but had since been taught privately by a governess. The author found that when trying to read

she had to spell words of two or three letters, and in doing so often misnamed the letters; when spelling words she might name the first letters correctly, but the succeeding ones quite inaccurately; when he tested her with short words she constantly made mistakes, such as calling "was" "of." He was told that her younger sister, who had been learning to read for only one month, could already read as well as this patient—she was, however, being taught on a different method, described as the "look and read" principle. Miss F. was not good at arithmetic; she experienced unusual difficulty in adding figures; sums were a trial to her and she was bad at arithmetical tables; she was also said to start reading music correctly, but soon began to misname the notes. In all other respects, she was a bright, intelligent child, and quite sharp, had a good memory for facts, and learned and repeated poetry readily.

A point of special interest about this case was that her mother's brother was ten years of age before he succeeded in learning to read; all his letters were mixed up, and even in adult life he is said to spell abominably. We may fairly take this as evidence of a family tendency to imperfection in development of the visual memory centre for words in the cortex of the left angular gyrus. No evidence in this direction has been elicited before, but such hereditary tendency seems not improbable.

In the case of the patient in question there appears to be reason to believe that a congenital defect exists in the centres for the visual memory of figures and musical notes as well as in that for words and letters. The association affords support to the view Hinshelwood has advanced that the allied visual memory centres are in all probability located in adjoining areas of the cerebral cortex, and emphasizes his objection to Wernicke's statement that in the diagnosis of these cases great importance may be attached to the fact that these children have, as a rule, no difficulty in recognizing and dealing with figures. In the present case a wise step had already been taken when the child was withdrawn from school and placed under private tuition; much patience is necessary in the teaching of these children, who are detrimentally embarrassed by their mistakes when being taught in class. Miss F.'s younger sister was, as far as is known, in no way defective, but was being taught to read on the "look and read" principle; this the author understands to mean that the recognition of individual letters and the spelling of them into words is no part of the method; the child is taught to study and recognize printed words as a whole; the unit for observation and visual memory is the word and not the letter; both Hinshelwood and Nettleship insist on the necessity of steady perseverance in the development of the defective visual memory centre or the training of a vicarious one probably in the angular gyrus of the right hemisphere, and advocate beginning on the old plan of teaching individual letters. The author thinks it is worth considering whether the "look and read" system is not the one to be adopted for cases of congenital word-blindness; it is, after all, by the visual memory of words, rather than by that of their constituent letters, that we are enabled to read accurately and fluently. In cases of "inability to learn to read" it is obviously desirable that the shortest route to reading should be taken. The study of words as a whole would proba-

bly be as efficient a training for the development of the defective centre as the study of individual letters, and if this study of words can be carried out *ab initio*, much saving of valuable time may possibly be effected. As scientific men we need in these times to recognize that in every case where as good mental training can be provided by profitable as by profitless study, the former is the course we should recommend. If the "look and read" system of instruction is available, and were made use of for a case of congenital word-blindness, oral tuition in spelling would be required, and in writing the patient would probably make many mistakes in spelling. If he had received good oral instruction in spelling it is conceivable that the use of a type-writing machine might help to save him from such plunders later in life.

Miss F. paid the author a second visit on August 8, 1905. Her mother informed him that she had got on quite well on the "look and read" principle, and at the time of the second visit could not be kept from reading. She was getting on better with figures and the music lessons were progressing favorably; they were at a standstill before. She was able to read two-syllable words well; having learnt the alphabet before, she is not a pure example of the "look and read" method; studying the word "remain" she got the first syllable correct; then, not familiar with "main" she next scrutinized "ain;" unable to identify this combination of letters, she next tried "in," which she correctly recognized, but with the result that she vocalized the word incorrectly in the end.

Hereditary Congenital Night-blindness without Visible Ophthalmoscopic Changes.

W. W. SINCLAIR. *The Ophthalmoscopic Review* (London), September, 1905.

In a most instructive paper (*Royal London Ophthalmic Hospital Reports, Vol. XI, Part IV.*), "On some of the forms of congenital and infantile amblyopia," Nettleship describes a group of cases characterized by congenital, stationary, night-blindness with inconspicuous fungus changes, consisting mainly of irregularity of the pigmented epithelium and the presence of scattered minute white dots, and gives a remarkable pedigree of a family so affected. One of the cases examined by Nettleship is stated to have shown "no ophthalmoscopic changes." All the affected persons were males and the great majority inherited through the mother. It is to be noted that the four patients examined by Nettleship were all myotic. Nettleship, in the same paper, gives notes of three single cases of night-blindness, all in males. Two were myopic. In one of these there were "no definite ophthalmoscopic changes, except large myopic crescents," in the other there were fairly well-marked changes in the retinal epithelium. In the third case there was considerable amblyopia, not improved by glasses, with "ophthalmoscopic appearances perfectly normal in every particular."

Nettleship refers to Leber's short account of congenital night-blindness without retinitis pigmentosa, and with only slight changes (*Graefe und Sæmisch., Vol. V, p. 648*).

In Vol. XIII of the Transactions of the Ophthalmological Society, Morton gives the pedigree of a family case of hereditary night-blindness without visible fungus change. All the affected persons were males and the condition appears to have been associated with fair hair. Both the patients examined by Morton were myopic, and both had markedly contracted fields. Another, seen by Tatham Thompson, of Cardiff, had progressive myopia with "irregularly scattered pigment at the periphery," but the aspect was "not at all typical of pigmentary retinitis." Three other brothers had night-blindness but "no pigmentary retinitis," (refraction of not stated).

The affected members of the family, now reported, appear to belong to a group related to those above mentioned, but differing from them in one or two important respects. The interesting points are:

1. Females were affected as well as males.
2. In neither of the cases seen was the condition associated with myopia.
3. In the two cases examined the ophthalmoscopic appearances were perfectly normal in every respect.
4. Where a father or mother was unaffected their children invariably escaped.

Case 1. A boy of 11 years. $V = 5/6$ in each eye. Field of full-size in ordinary day light. Color vision normal (Holmgren).

Case 2. Mother of case 1, age 50. $V = 5/6$ in each eye. Field full in day light. Color vision normal (Holmgren).

In spite of the normal sight and field in ordinary light, and the absence of any visible pathological changes in the eye, both patients, like the others in the family who were affected, were night-blind to such a degree that when they had to go out anywhere after dusk one of the unaffected members had to accompany them in the capacity of guide.

In testing the visual field under diminished illumination, it was noticeable that a moderate reduction of light caused no alteration in the size of the field; but when the illumination fell below a certain point the field was very markedly reduced as compared with the author's, under the same conditions. Examination with the photometer revealed, as was to be expected, a great defect in the light sense. The author tested the light minimum in Case 2, in a sister who was not affected by night-blindness and in himself, after thorough (twenty minutes) adaptation. The light minimum in the sister and in his own case was two, while that of the night-blind patient was seven, a very striking difference.

The night-blindness appears to be congenital, and non-progressive. There was no consanguinity so far as could be ascertained, and no associated deafness or other defect, either physical or mental. Indeed those members of the family whom the author saw were without exception "pictures of health," and exceptionally intelligent members of the lower middle classes. The existence of night-blindness as a family complaint was of course well known to them, and they took much interest in helping the author to collect the pertinent facts. At least five generations have been affected. It is unknown whether any of the children forming the sixth generation are night-blind or not.

The meaning of such a condition as exists in this family must at present be quite uncertain, but it seems best explained as an inherited diminution in the photo-chemical activity of the retina.

GYNECOLOGY

Edited by John A. Sampson, M. D.

*A Discussion of the Diagnosis and Treatment of Cancer of the Uterus.
Twenty-third Annual Meeting of the British Medical Association,
July, 1905.*

WERTHEIM'S (of Vienna) REPORT. *British Medical Journal*, 1905, September 25, p. 689-695.

We owe to Wertheim, more than to anyone else, the development and acceptance of what is known as the more radical abdominal operation for cancer of the uterine cervix. He is not the originator of the abdominal route nor the first to suggest the wide removal of the parametrium or the pelvic lymph nodes, but he has demonstrated the indications for this route and how the operation may be safely accomplished.

Since 1898, he has removed 270 cancerous uteri by his operative methods and an idea may be formed of the improvement in the technique of the operation from the fact, that while the primary mortality claimed twelve of the first 30 cases; he lost only two in the last 30 cases.

In the present report, he describes the various steps in this operation, which has in view, first the freeing of the ureters and then the wide excision of the parametrium; the removal of the lymph glands being a secondary consideration.

Wertheim was first induced to try his present methods "only to hold out a possibility of relief for those advanced cases in which the vaginal operation was considered contraindicated," but later he employed them in all cases.

A study of the specimens removed by him have shown that a soft feeling parametrium does not necessarily exclude the presence of cancer or an indurated one indicated cancer. In only 40 per cent. of the cases studied was the disease limited to the uterus, it having invaded the parametrium or lymph nodes in the rest of the cases. In 10 per cent. of the cases the lymph nodes were involved but the parametrium free; in 20 per cent. both were involved and in 27½ per cent. the parametrium was cancerous but the lymph nodes were free. The above emphasizes the great importance of a wide excision of the parametrium which is not accomplished by the vaginal or even by the usual abdominal hysterectomy.

The results of his work show that 60 to 70 per cent. of the cases operated upon are free from recurrence four and five years afterwards, and also that cases are operated upon which were heretofore considered inoperable and that even a large number of these are well after a period of three, four, and five years. He states that at present, no decisive opinion can be given as to the value of extirpating the lymph nodes but that the disease has recurred in the majority of cases in which they were found cancerous at operation, although some of these cases are apparently free from recurrence three and a half years afterwards. In nearly all

cases in which the disease has recurred this has taken place in the lymph nodes and not in the vaginal vault.

He compliments the work of Winter, who has done so much to educate the laity and also the profession as to the importance of an early diagnosis of this condition.

The Gonococcus in the Puerperium, with Report of Seventeen Cases.
STONE and McDONALD. *Surgery, Gynecology and Obstetrics*, 1906, II,
151-161.

The presence of the gonococcus in the uterus during the puerperium should be of interest to the gynecologist as well as the obstetrician, for, undoubtedly, it frequently leads to acute inflammatory disease of the tubes and the numerous sequelae of this condition.

The writers report seventeen cases where the gonococcus was obtained from the uterus during the puerperium, out of fifty-three cases examined for it, in the wards of the Lying-in Hospital (New York) in the year 1904.

In the above-mentioned hospital, bacteriological examinations are made, as a routine, in all cases of fever in the puerperium, and the taking of intra-uterine cultures offered an opportunity to examine for the gonococcus, by means of smears. In addition other cases were examined and among them cases where the temperature was elevated, but not high enough to offer an indication for taking an intra-uterine culture.

The effects of the disease during the pregnancy were not studied as the cases did not come under observation until after labor had begun. The demonstration of a biscuit-shaped intracellular diplococcus, negative to Gram's stain was considered sufficient evidence upon which to make a diagnosis of gonorrhœa. Smears were taken at different times during the puerperium but the demonstration of the organism was seldom successful until the fifth day and increased success was obtained as the puerperium advanced. Smears taken earlier in the puerperium were found to be obscured by red blood cells. The site in the genital canal, which gave the greatest success in finding the organism, was within the cervix and about the level of the internal os.

All of the seventeen patients were primipara, the majority of the patients in the hospital are primipara as it is planned to attend the multiparae in their own homes. In three patients premature labor occurred, at periods varying from six months and one-half to seven months.

In twelve of the seventeen patients there was an elevation of temperature above 100 degrees, but in three of these twelve patients, a mixed infection was found, twice streptococcus and gonococcus and once colon and gonococcus.

The average duration of the fever in the nine cases of gonococcus infection alone, who had an elevation of temperature of 100 degrees or over was 4.1 days varying from three cases in which the fever lasted one day to two cases in which it lasted nine days. The fever was irregular in all cases and did not follow any definite curve. In three of the nine cases it began on labor day. In two cases the temperature reached 103 degrees but in the majority of the cases it was less than 102 degrees.

In addition, three patients with mixed infection had a temperature above 100 degrees. In one, colon and gonococcus infection, the temperature rose on the sixth day, lasted six days, and reached 102 degrees three times. Two cases of streptococcus and gonococcus infection had widely varied courses. One, admitted on the eighth day, with a history of fever and chills following an operative labor, had a mild course, and fever lasted only one day; the other, admitted on the sixth day, with a history of a seven months abortion and fever, had a high temperature, a severe course, and a general peritonitis followed by death.

In five of the seventeen women, the temperature never rose to 100 degrees, although there were, in two of these cases, slight abdominal pain and rigidity.

Pain was present in nine of the seventeen cases; severe in seven, moderate in two and slight in four. It was usually referred to the lower abdomen. One patient whose puerperium had been uneventful except for the presence of a profuse discharge and a moderate amount of pelvic pain and tenderness, had an attack of pelvic peritonitis five months later and both tubes filled with pus were removed at operation.

Fourteen full term babies and three premature labors were the result of the seventeen pregnancies. Gonococcus conjunctivitis occurred in three of these infants, the discharge appearing in the third, sixth and ninth days. No infant at birth showed any signs of inflamed eyes, and all had Crede's nitrated of silver treatment for the prevention of infection. In addition, during this time, two infants of healthy mothers had gonococcus infection, thus showing that in all institutions there is a possibility of infants acquiring gonococcus conjunctivitis from other causes than vulvar discharges. Three of the fourteen infants died and the majority of the rest, all breast fed, showed evidences of disturbed nutrition and intestinal disturbances. The marked difference between the nutrition of these babies and of those nursed by non-infected women was very striking and suggests the possibility of a gonococcus toxin affecting the child.

The author concludes that gonococcus infection is present in a much larger proportion of the patients of obstetrical clinics than they had previously supposed and that the puerperal state has a direct influence upon the course of the disease.* They think that gonorrhœa, which has been latent before labor, commonly spreads upward with rapidity during the puerperium, as shown by the abdominal pain and rigidity in patients not previously thus affected; and that the presence of these symptoms, when accompanied by fever, is considered to indicate the extension of the disease beyond the uterus, thus possibly explaining many of the cases of salpingitis following labor, which are supposed to be the result of puerperal infection.

*The findings of the writers agree very well with those of Little, who found the gonococcus in the puerperal uterus of sixteen out of fifty consecutive labors at the Obstetrical Department of the Johns Hopkins Hospital. (The Bacteriology of the Puerperal Uterus, *American Journal of Obstetrics*, 1905, lii, 815-847.)

ALBANY MEDICAL ANNALS

Original Communications

AN ADDRESS

TO THE GRADUATING CLASS OF ST. PETER'S HOSPITAL TRAINING
SCHOOL FOR NURSES,

Delivered on June 27, 1906.

By HENRY HUN; M. D.

The Reverend Bishop will give you your well-earned diplomas and it gives me great pleasure to present to you, the Graduating Class of St. Peter's Hospital Training School for Nurses, the congratulations of all your friends here present on the successful completion of your long and arduous course of training and further to give to you the good wishes of us all for your success in your life's work.

In leaving the not less important domestic work of your quiet homes to enter into the wider work of the world, to earn your own living and to become independent, you have chosen a career which is essentially womanly and beneficent. From the earliest times of barbaric tribes down to the present day, whenever sickness has entered a household, it is ever the women of the house who care for and nurse the sufferer. The nursing of the sick and the teaching of girls and younger boys are duties for which women have an especial and a natural aptitude, but which men, with the best of good will, can perform very imperfectly.

Now there was no trained nurse during the early ages of civilization; every woman was an amateur nurse in her own family and to a great extent still is even in these days. But when the Christian religion began to spread over the world, it preached and practised a broad spirit of charity hitherto unknown and under its influence there came into the hearts of good men

and women that wonderful idea of service and self-sacrifice which has since borne such abundant fruit. There sprang into existence the various religious monastic orders composed of persons willing and anxious to withdraw from both the pleasures and the fetters of the world in order to devote their lives to good deeds in the service of God. Among the many good deeds to which these orders, such as the Franciscans, Augustinians, the Sisters of St. Elizabeth of Hungary and many others, devoted themselves, nursing early became prominent. The willing hands of these sisters soon became trained and skilful in their daily work, and thus was started the first body of trained nurses in the world. The real origin of the trained nurse lies in the convents of Asia Minor, in the Holy Land, a fitting origin for such a beneficent work. From the Holy Land the convents spread westward over Europe. During the crusades many Hospices were established for the care and nursing of the pilgrims and crusaders who fell ill on the journey, although this was not their only duty. The most noted of these probably is the Hospice of St. Bernard, still standing on the Simplon Pass in Switzerland and still in active service. A very great impetus was given both to medicine and nursing when Pope Innocent the Third, at the beginning of the fifteenth century, founded the great hospital St. Spirito, in Rome, a great light in the world down to the present day.

From early times the religious orders associated with themselves lay members to aid in caring for the sick. Later, religious orders were founded, whose especial duty was nursing. As far back as the twelfth century that curious lay order of Beguines, or hospital sisters, originated in Belgium. They were, for the most part, widows of men killed in the constant wars of those times and were gathered together in large houses and supported themselves in part by nursing. At one time they spread rapidly throughout Europe, then dwindled away, but have continued in Belgium down to the present time. The nursing within the strictly religious orders was necessarily confined to the convents and monasteries, and thus its usefulness was limited. So that finally St. Vincent de Paul, in 1629, founded the order of the Sisters of Charity, whose duty was to care for the sick, for children, and for the aged; not in convents but in the world at large. St. Vincent de Paul wrote, the Sisters of Charity should have "no monasteries but the rooms of the sick, no cells but hired rooms, no cloisters but the streets of the town and the wards of a hos-

pital, no inclosure but obedience, and for convent bars, only the fear of God."

These were great and inspiring sentiments. The success of such orders as the Sisters of Charity and the Sisters of Mercy was immediate, immense and enduring. They soon had charge of practically all the hospitals on the continent of Europe and of most of those of England. In the other hospitals of England, during the seventeenth and eighteenth centuries the nursing was done for the most part by criminals and by women of ill-repute, and was wretched indeed. And so for many centuries all the trained nursing in the world was done by the Sisters of the Catholic Church, and until quite recently, until less than 100 years ago, they had no rivals. The Trained Nurse was originally a Sister of Charity just as the Doctor was originally a Priest.

In 1836 Frederika, the wife of Theodor Fliedner, a German Pastor, established at Kaiserwerth on the Rhine, a protestant order of nurses, somewhat similar to Sisters of Charity, called the Deaconess Sisters, whose duty was alternately to nurse the sick and to care for children and for the insane.

Finally in 1856, taught by bitter experiences in nursing in the Crimean War, Florence Nightingale, herself a former pupil in Kaiserwerth, organized in St. Thomas Hospital in London, the first training school for nurses, entirely unconnected with religious influences or authority and thus originated the idea of the modern training school for nurses.

Now I have given you this very brief outline of the history of nurses because I wished to point out to you that St. Peter's Hospital, in the less than forty years of its existence, has experienced in its nursing, all the stages which the evolution of the nurse in the world has passed through in its many centuries.

When St. Peter's Hospital was opened in 1869, there were no trained nurses in the United States. Nursing was then in its barbaric stage, and was done by the women of the household with the aid of other women, mostly widows, who had had some experience in nursing relatives and friends, but no other training. Some of these women made in time excellent nurses as far as the care of the patient was concerned, but of course, having had no medical training, they could make no clinical notes or observations, and were of little direct help to the doctor. The first Training School for Nurses in the United States was started in Bellevue Hospital, New York, in May, 1873. In the fall

of 1873, in the Massachusetts General Hospital in Boston, a second training school for nurses was organized, and still later in the same year in the Connecticut State Hospital in New Haven a third training school was started. Since 1873 very many training schools in every section of the country have been organized.

During the first twenty or thirty years of its existence, the nursing in St. Peter's was done practically entirely by the Sisters. And in those early days, before success in practice came to destroy my real scientific work in medicine, when I spent as many hours in the hospital wards as I do minutes now, I had an opportunity to judge of their nursing. It was excellent, and where all were good, it seems unjust to mention any names; but I remember so vividly, many desperate cases which I and Sister Martina in the men's ward, and Sister Agnes in the women's ward, struggled over day after day, and I never wish for better, more intelligent, more devoted nurses to help me. Even in those days the Sisters needed some help, and Thomas in the men's ward, and Maggie McNulty in the women's ward, were faithful souls who did their best and who gained some little knowledge of nursing, and left the hospital to care for private patients, but later came back to St. Peter's, both with inoperable cancers, to die amid the scenes of their former labors. But as St. Peter's grew larger, the Sisters were obliged to give more and more time to its management, and to get more and more help in the nursing; for Sister Philomena knows well how great is the labor and how heavy are the cares and anxieties of the management of a large hospital. Then the garb of a Sister is not suitable for surgical work, and Sister Immaculata, whose supervision is so indispensable in our operating room, has been obliged to change her colors and to don a raiment so white that it can the more readily be kept as spotless as is her character and her name.

For these and other reasons, it was decided a few years ago to start a training school in St. Peter's, and of this training school you are some of the brightest products. And I consider that you are especially fortunate in being graduates of this school for two reasons. First, because you have a history and a tradition behind you. You have been taught by members of a great guild or order of nurses extending back over centuries. All the traditions of nursing during these centuries are theirs to be transmitted to you. The second reason is, that you have been taught nursing by those who nurse from the very highest motives.

Motives of self sacrifice, of duty, of love of God. You have chosen nursing as a means of earning your living. It is right that you should be paid for your service, and I hope and believe that you will make a good living and be able to lay up money for your old age, if you do not early stray from nursing into the more blessed state of matrimony, as so many nurses do just when they are most capable in their profession. But you ought to thoroughly appreciate that there is something more than the pecuniary side to nursing. It is a noble vocation. When by doing just the right thing at just the right time in a critical case you save a person's life, you have done something which money cannot repay. You have earned not only the patient's money, but also his gratitude. You have done a good deed and the world is better for it. In such a high vocation, the fact that you have graduated at this school should always be an inspiration to you, should make you look upon nursing not only as a means of earning money, but as a high calling in which you should strive to do the most disagreeable duties cheerfully and gladly, and in which you should make your work and your life a blessing to all who come in contact with it, pleasing to God and man. You have been taught in the hospital the details of nursing, but while doing so, I think that the graduates of St. Peter's Hospital Training School must catch from the Sisters an inspiration which will fill their souls with the spirit of duty and self sacrifice, and will add to the technical skill of their hands a spiritual longing of their hearts towards the highest ideal of the perfect trained nurse.

THE ETIOLOGY AND TREATMENT OF HEMORRHOIDS.

Read before the Medical Society of Gloversville, March, 1906.

BY DOUGLAS C. MORIARTA, M. D.

Mr. President and Gentlemen:

The subject I am to present this evening, "The Etiology and Treatment of Hemorrhoids," was elected by our president. I have absolutely nothing original, either in thought or procedure, to suggest; so shall only review the subject, emphasiz-

ing such detail as has, I believe, made my personal work in this line satisfactory.

The universal occurrence of this disease in all mankind since time immemorial, stamps it as one with which all classes of practitioners must be familiar. It has constant etiological factors which are perfectly comprehended, though presenting several different pathological conditions, for the correction of which surgeons have many methods of procedure. Thus far, no single operation has been universally accepted or adopted for the varied conditions present in this disease, each operator seeming to accept and prefer the one with which he is most familiar. The chief interest in this subject at present is whether the operation for internal hemorrhoids can be successfully and painlessly accomplished with local anesthesia, thus avoiding the loss of time and the danger of an anesthetic.

The pathological condition comprehended as hemorrhoids, in its strictest sense, is a varicosity of the hemorrhoidal vessels, whether of venous, capillary or arterial origin. It is common to all classes, all ages, and both sexes. It afflicts the high liver, as well as the abstemious, the professional man as well as the laborer, those who are exposed to the elements as well as those who are not, persons of sedentary as well as those of active habit. There is no disease more common, more tedious, or more annoying than hemorrhoids.

This disease is another one of the many in which the physician often allows himself to lose prestige and be at fault in diagnosis and treatment. As you all know, it is common for patients to consult us concerning some rectal trouble which they designate as piles, and ask us to prescribe for them. An examination is necessary for a diagnosis, and is suggested, but the patient refuses it, insisting the trouble is not serious enough for that, or they haven't time, or it is not convenient. So we acquiesce and proceed to prescribe an ointment, suppositories, or direct some particular local application, such as ice, hot water, witch hazel, or similar remedies, with some internal prescription to relieve the bowels if indicated. If the patient is not relieved, he may become dissatisfied and go to a colleague who insists on an examination, determines the trouble and promptly corrects it. The patient may not have had hemorrhoids at all, as the lay mind calls everything piles, from eczema about the anus to malignant trouble in the rectum. Thus we

have through carelessness lost the respect of a patient. There is no excuse for any of us not making examination in this disease, in either sex, at any age, under proper conditions.

The anatomy of the vascular system of the lower rectum, or hemorrhoidal area, is of much significance in the etiology and treatment of this disease. The arterial supply is peculiarly diverse and free, and comes from the branches of the inferior mesenteric, the internal iliac and internal pudic. The branches of these vessels pierce the muscular wall of the rectum at various levels. They run parallel with each other, as well as with the rectum, and communicate freely by lateral branches and form a complicated arterial plexus. The veins have a similar plexiform distribution in the tissues, just inside the anus, and return in their general course parallel to the arteries, and pass through the muscular wall of the rectum by innumerable button-hole like openings to empty into the inferior mesenteric vein and so on to the portal circulation. These veins do not have valves, and are only loosely supported by the surrounding tissues. The remaining veins, and their branches, find their way into the inferior hemorrhoidal veins, finally reaching the general systematic venous circulation. This anastomosis between the portal and venous systemic circulations is a very decided etiological factor in hemorrhoidal conditions, and only secondary in importance to the valveless veins of the portal system. These local veins may become congested, secondary to diseases of the liver, the heart or lungs. Probably without exception the primary cause of hemorrhoids is a weakened or diseased condition of the vessels at the lower end of the rectum. This condition may exist for a time, without giving rise to any well-marked symptoms, until a phlebitis occurs, terminating in thrombosis. A hemorrhoid may be the inflammation of a single vein, or of several veins.

This condition presents itself at a point where the superior and inferior sets of veins anastomose, which is just within the anal orifice, often spoken of as the hemorrhoidal area. If only the superior set of veins is involved, the tumors or tissues are designated internal piles, and are covered by mucous membrane and are inside the sphincter; while if the inferior set is involved, they are designated external piles, are covered with skin, and are outside the sphincter.

The exciting causes may be from the portal or general systemic circulation, straining incident to constipation, cystitis, vesicle

calculi, enlarged prostate, anal fissure, stricture of the urethra or rectum, or from tumors causing pressure such as pregnancy, displaced organs, or growths in the pelvis; also excesses in highly seasoned food, alcoholic beverages, violent exercise, exposure to cold, or occupation.

The general treatment of hemorrhoids will be considered under three sub-divisions, prophylactic, palliative and operative measures; and anatomically, in two divisions, internal and external.

From what has been stated, the necessity of an early diagnosis must be apparent. This can only be determined by a careful physical examination of the heart, lungs, liver and pelvis; and the local examination of the rectum.

To make the latter, the patients should be previously prepared by having had a cathartic followed by an enema before presenting themselves for the examination. The examiner should have a proper table (which should be a firm one) and a good light. Personally, I follow a digital examination by one in which I use a short cylindrical speculum which must have an obturator and not be over three inches long. Both the instrument and the external parts should be well lubricated, and we should remember that the instrument when being introduced should first point upward and forward, and then backward. After it is in place, withdraw the obturator, and when you are ready the instrument is slowly withdrawn, when, with a good light, all parts of the rectal mucous membrane reached by the speculum can be perfectly seen. If one realizes that ninety per cent. of all the lesions of the rectum lie within two inches of the anus, it is easy to appreciate the value of a full-sized short speculum. Frequently the parts are so painful that an examination is not practicable without local anesthesia. The application of cocaine to the parts, a solution externally and a suppository of the same inside the sphincter, makes an examination under these sensitive conditions possible and essentially painless.

Prophylaxis is a potent factor in the treatment of hemorrhoids and is of value not only in advising those patients who are periodically afflicted with hemorrhoids how to avoid an attack, but is of equal value in the cases in which exacerbations occur that are not operable. The prophylactic treatment includes the correcting of the diet, habits, and occupation of the patient; also the correcting of any portal or general venous congestion by the appropriate remedies. It also includes the correction of straining from con-

stipation, rectal or urethral stricture, enlarged prostate, vesical calculi or cystitis; and further, the correction by operation or otherwise of the pressure incident to growths, or displaced organs within the pelvis that interfere with the return venous circulation.

Palliative treatment is frequently a necessity; at other times an expedient measure.

Under the first head are (a) the patients whose organic complications contra-indicate surgical procedure; (b) those patients whose hemorrhoids are secondary to pathogenic lesions already enumerated; (c) those patients who are willing to submit to operative measures, but are not in a proper physical condition.

The second class includes those who absolutely refuse operative procedure. They prefer to go on from month to month, or from year to year a slave to their daily stool and their own bath room. They are able to be about, except at time of exacerbation, when they are forced to rest. Their daily routine consists in washing the parts with cold water after stooling, followed by some bland lubricant, to aid in returning the parts inside the sphincter.

All palliative treatment is similar. The patient should go to bed in acute conditions, the pelvis should be elevated, the bowels moved with some gentle evacuant (at which time we should insist on their using a bed-pan). The diet should be of the plainest, restricted and non-stimulating. Ice locally is grateful at times, as is dry heat. The parts should be thoroughly cleaned after each stool with cold water, and some astringent applied, perhaps combined with a sedative. If hemorrhages are of frequent occurrence, they must be remedied; or the patient will become anemic, or even exsanguinated. The remedy depends somewhat upon the etiology. If from constitutional venous congestion, this must be overcome; if from pressure, that must be relieved. If due to local hemorrhage, the use of astringents, cold water, ice, solution of adrenalin, or best of all, local pressure, will be of service.

In the operative treatment of hemorrhoids, we must consider their anatomical situation, i. e., whether internal or external to the sphincter, as they require different procedures. External piles are easily and painlessly removed with local anesthesia. They are either single or multiple, and are situated just at the muco-cutaneous junction, are blue in color, and only covered by

the skin. They are distinct in contour, and when acute, are very painful.

After the parts are anesthetized, they are incised when the clot or clots are turned out; the relief is instantaneous and permanent, if *all* the clot is removed. If a bleeding point is observed, it must be controlled, and a bit of gauze packing will prevent refilling. Should they refill they are to be reopened. If this line of treatment is rejected, the tumors ultimately contract, and a tab of skin remains; this can be readily snipped off. In opening an acute pile without local anesthesia, use a sharp curved bistoury and cut quickly, as the process is very painful though of short duration.

Internal hemorrhoids are venous, capillary or arterial, pediculated or sessile, single or multiple, and occasionally involve the entire pile-bearing area. They appear first in defecation, and return when the effort is over. The sphincter is often irritable, and grasps and strangulates the hemorrhoid; at other times, they burst from the force of the sphincter, and there is free hemorrhage. In this condition, relief comes by pressing them back into the rectum. At other times they do not remain in at all, if the sphincter is relaxed; thus while they are really internal piles, they are habitually external in position. As you know, there are several methods of treatment, with their many modifications. I shall not attempt to mention them all, but confine myself to those which seem most important for us as general practitioners to discuss.

The injection method, which has had such a meteoric prominence, originating with the quack, and revealed to the profession by Dr. Andrews, I only mention to condemn. Any surgical procedure which has such a large percentage of serious complications and fatalities is not justifiable in my judgment, under any circumstances; even if the patient is willing to accept the risk because of personal reasons. Because of its former prominence, a short review of it is permissible. Dr. Andrews became aware of the work done by quacks, in this line, and proceeded to investigate. It seems that Mitchell of Illinois was the man to originate the method. He advertised freely, and as a result had many patients, with, it is said, marvellous results. He also sold to anyone the method and formula used for injecting the hemorrhoids and gave in such sale exclusive territorial rights to their use. For a time

after the method and solution became known, some practitioners advocated the method, but later, after a large experience condemned it, because of numerous anxious complications, with some fatalities. Thus it stood until Martin of Philadelphia published his article on the subject in *American Medicine*, August, 1904. Martin believes the unfavorable complications due entirely to the solution formerly employed. He advocates the use of the original phenalsodique solution, from which he reports most satisfactory results. He also advocates, as part of the treatment, the dilation of the sphincter. This he does in his office, and uses nitrous oxide gas as an anesthetic. He believes that the results he now obtains are due to the solution he employs, and his extreme skill and familiarity with the procedure; though he admits the necessity of daily observation of his patients, for complications, that they may receive immediate treatment; otherwise the method would be less satisfactory.

The ligature operation, which is one of the oldest for the disease, has many advocates. I can neither endorse nor condemn, as I have had no experience with it.

Whitehead's operation has many advocates, and an equal number who object to, and have discarded it after what they claim is a fair trial. Whitehead's claim is that piles are not independent tumors, but a part of the general plexus of veins, and that they are severally and equally affected by the same cause, whether constitutional or mechanical. He accordingly advocates the removal of the entire pile area. Those who condemn the Whitehead operation do so on the following grounds: first, because of the large amount of blood lost; second, because of the length of time required; third, because of poor results; fourth, because it is unscientific and not effectual. Personally, the method has served me, and I will surely make use of it again when indicated.

The clamp and cautery is the procedure of my election; I feel familiar with it, and I have never had any complications or untoward symptoms from its use, nor have I ever had occasion to operate a second time on the same patient.

Pennington of Chicago mentions a method which I have never tried, but which I shall, as it seems feasible. He removes an ellipse from the summit of each hemorrhoid and through these incisions dissects the hemorrhoidal tumor. The mucous membrane then falls into place. His dressing is a rectal tube

which he leaves in place for forty-eight hours, when it is easily removed with the first stool. His results are satisfactory.

When we are arranging for an operative case of internal hemorrhoids, there are several conditions to be determined. First, is the patient a proper subject for an anesthetic? i. e., are the kidneys, heart and lungs in a condition warranting the procedure; second, can this operation be done successfully with local anesthesia?

I have always given an anesthetic when operating for internal hemorrhoids, and believed it necessary. Others do not; notably, Gant, who reported some two years ago the value of pressure anesthesia by the use of sterile water directly into the tumors and surrounding tissues. He has found this procedure satisfactory from his own and the patients' standpoint, in over 200 cases. He reports doing all his work in this way, and has been able to discard entirely general anesthesia. He reports the patients able to be up and about immediately after the operation; and states that the local anesthesia is sufficient for either the ligature or clamp and cautery operation, though he prefers the ligature as the patient is to continue his vocation and hemorrhage is less apt to complicate the convalescence. His method is to dilate the sphincter first, without an anesthetic. If he does this, he is certainly very clever, for to be able to dilate a sphincter without pain, or at all without an anesthetic, seems almost an exaggeration to one familiar only with the usual procedure. I propose to give myself the pleasure in the near future of witnessing Dr. Gant's procedure, and trust I may be able to accept all he publishes.

Third. Is the case one in which we would be justified in attempting to operate? To decide this, we must consider the etiology of this particular case of piles; for certainly we would not operate on a case in which the portal or venous systems were at fault; or in cases due to spasm, pressure or malignancy.

Fourth. What method shall we employ? This question is always a personal one.

Fifth. Is there any condition in acute cases in which operative procedures *per se* are contra-indicated? I believe not.

The operation being decided on, the first thing is to prepare the patient. I prefer to have the patient under observation for seventy-two hours, though of course a less time is permissible in an emergency. The diet should be arranged and re-

stricted, particularly during the last twenty-four hours. Calomel and soda should be administered the second night before the operation, and a saline the following morning.

The night preceding the operation, the patient should have a full bath, the parts should be shaved, and a dose of compound liquorice powder given. A full enema should be given at least four hours before the operation, and the nurse should know that it has all returned. Many operators wish the enema given immediately before the operation; but I have seen part of it retained so often, particularly with nervous patients, that I consider it important to take this precaution. Otherwise the operator may be annoyed,—should it return during the operation.

The usual surgical technique is to be observed. I prefer the patient in the lithotomy position. After the patient is anesthetized, place a gauze tampon, having a tape attached, high in the rectum to protect the field of operation. Dilate the sphincter thoroughly, being careful to avoid tearing the mucous membrane or injuring the deeper tissues. I believe dilation of the sphincter is of the greatest value in all operations for internal hemorrhoids. The field of operation is more accessible, venous hemorrhage is materially less, the patient's convalescence is more comfortable, there is scarcely ever retention of urine, and seldom any tenesmus. Now irrigate the rectum, with sterile salt solution, and you are ready to do the operation of your election.

If the ligature is to be used, grasp the hemorrhoid with a small tenaculum, and with the scissors, cut through the mucous membrane, just inside the muco-cutaneous juncture. The incision is carried up the bowel on either side of the pile, leaving only an isthmus at the top composed of mucous membrane and blood vessels. The pile is now drawn out and securely ligated at its base with braided silk. Operate on as many tumors as is indicated, after which they are returned within the sphincter. The ligatures usually slough off on the tenth day.

If Whitehead's operation is to be done, each quadrant of tissue about the anus is grasped at the muco-cutaneous junction with a pair of forceps which are held by an assistant. Then with a pair of scissors, the mucous membrane is incised just inside its junction with the skin, for the entire circumference of the bowels. If this is well done, it is very easy to separate the mucous membrane, and attached hemorrhoid, from the muscular tissues and bring down the cuff until we are above the pile-bearing

area. We now completely sever the cuff at a point above the piles, transversely, in limited stages, controlling all hemorrhage as we proceed either by ligature or twisting. The upper margin of the cuff is brought down and attached to the muco-cutaneous margin with a running suture, which must be very loosely adjusted and must never be tightened to control hemorrhage.

If Pennington's method is used, remove an elliptical piece of mucous membrane from each pile, and then remove the entire tumor, through this opening. The mucous membrane collapses and covers the denuded portion.

If the submucous ligature suggested by Dr. Ricketts is employed, a silk ligature is introduced under the mucous membrane, commencing at the muco-cutaneous line, and extending to the upper border of the pile area; it is then reintroduced at the point of emergence and carried to the original point of entrance. This leaves both ends of the ligature just outside the anus. As many of these ligatures are placed as are required, and when all are in, they are then tied. Dr. Ricketts' claim is that no tissue is sacrificed, no hemorrhage or infection occurs, and perfect cure results.

If the clamp and cautery operation is to be done, seize the tissue with a forceps, adjust the clamp, first cutting the mucous membrane just inside the muco-cutaneous line, and apply the cautery at a dull heat, practically cooking the tissue down to the clamp. If there is an excess of tissue, it can be removed with the scissors before the cautery is applied. As many piles are removed as indicated. In doing the operation, we must be careful to place the clamp parallel with radiating lines of tissue, not to take too much tissue in our clamp, and not to cauterize the adjoining tissue. The operation is done very quickly. I have never seen, as I have said, any untoward results from it, nor have I ever had to operate a second time. In doing the operation, a Pacquelin cautery is essential, and a clamp whose jaws are parallel gives the greatest protection from hemorrhages, as the crushing of the tissue by such an instrument will be uniform. The original clamp of Smith does not possess this advantage, though it is the one I have always used. The patient is up and about in from six to ten days. For a dressing, I use a rectal plug about three-fourths inch in diameter, made by winding gauze over a rubber tube, four inches long and one-fourth inch in diameter, all being covered by rubber tissue.

When this is introduced, adjust a full dressing of gauze, which is held in place by a T bandage snugly adjusted; much unnecessary discomfort results if this is not done. The plug is of value in case of flatus, and also makes pressure which controls hemorrhage, if such were to occur. The patient is now placed in bed, with the foot of the bed elevated, while the usual precautions after an anesthetic are observed. If the pain is severe, a sedative is indicated. Defer its use if practicable. The nurse must bear in mind the possible retention of urine and act accordingly. At the end of twenty-four hours, an enema is given through the tube in the rectal plug, and all allowed to come away. A nurse should be present at the first movement of the bowels following the operation. From this time on, I endeavor to have the patients have a soft stool daily. The diet should be moderate and non-stimulating. After a few days, prophylactic measures can be prescribed.

The treatment of the complications following operative procedures I have not taken up, as they are met in the usual way.

THE SANITARY DEPARTMENT OF ARMIES AND THE MILITARY MEDICAL OFFICER.*

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THE MANAGEMENT AND CONTROL OF MILITARY HOSPITALS.

The various hospital establishments of armies of course differ in name, and sometimes in interior economy, but are identical in function. They are:—

First. *Permanent*, station (post), general (base, fixed, home, water-cure, special sanatoria, etc.)

Second. *Temporary or Mobile*, regimental (battalion or battery), divisional (brigade, communicating), floating (ships, boats, sick-bay), ambulant (railroad trains, wagons, etc.)

Regulations governing military hospitals are more or less detailed in different armies, but everywhere much must be left

* Part of a course of lectures on military sanitation delivered before the Medical School, University of Nebraska.

to *lex non scripta*, which can only be learned from precept and experience.

In most countries even in peace-time military general hospitals are maintained to meet the current requirements of their armies and to be ready for immediate expansion in case of war. Experience has taught that accommodations in fixed hospitals at the base will be required for at least ten per cent. of the roster-strength of an army in active service, while five per cent. will suffice for all ordinary demands during peace. Moreover, experience has further taught that base hospitals should at all times be maintained of sufficient capacity to meet the extreme requirements of an actually organized army, no matter if that army be active or inactive.

In the United States army general hospitals only are under command of the Surgeon General. It must be understood, however, that in that army all hospitals of whatever kind are under immediate command of medical officers, who are responsible to the general or other line officer commanding, except as specified.

Paragraph 1467, U. S. Army Regulations, reads: "General hospitals will be under the exclusive control of the Surgeon General, and will be governed by such regulations as the Secretary of War may prescribe. The surgeon in charge will command the same * * * ."

Paragraph 1468 reads: "Hospital transports, boats, and railroad trains, after being properly assigned as such, will be exclusively under control of the Medical Department * * *."

The full meaning of this will be appreciated when it is learned that on December 17th, 1864, the capacity of the military general hospitals in the United States was 118,057 beds, of which number 83,400 were occupied.

It may be said that the general hospital is a development of the station hospital, as the brigade is the development of a regiment, and a regiment of a company. Indeed, in many armies this is the process of expansion followed in passing from peace to war, the station or fortress hospitals becoming general hospitals. In the United States during the Spanish-American war three entire posts—Forts Myer, Thomas and McPherson—were converted into general hospitals, with an aggregate accommodation of 3,000 beds. This however was but a drop in the bucket, ten times that number should have been available.

A military hospital may be regarded as a combination of hotel, barracks, and department store, with an operating room annex, and it goes without saying that its satisfactory management demands careful organization, a well-instructed personnel, and exact administration.

A standard United States army hospital for a regimental post has accommodations for sixty patients. For convenience in administering such a hospital it should be divided into departments as follows: Records, property, mess, wards, patients' effects, laboratories and operating rooms, squad rooms for hospital corps; outside dependencies, including ambulance house, stable repair shop, garden, grounds, etc.

Each one of these departments should be under the immediate charge of an officer or noncommissioned officer and such number of assistants as may be necessary. The duties of the personnel should be specifically described in standing orders, and every chief of a department should be held to a strict observance of orders.

The management of a small hospital is not difficult, particularly if everything is systematized, but when such an institution develops into a great general military hospital, with a thousand patients and the necessary personnel, it becomes one of the most exacting commands a military officer can have short of a division, and demands administrative ability of the highest order.

The field hospitals for the various units will be considered under "The Army in Active Service." It will be seen that the interior economy of these organizations, *mutatis mutandis*, follows the type of the post hospital.

As might be supposed, from ancient times water transportation has been used for the conveyance of the sick and wounded of armies. The primitive vessels of early days have given place to the floating palaces of the present, and the development of the floating hospital has been *pari passu*. The ocean-going hospital ship "J. K. Barnes" and the Mississippi river hospital boat "Charles McDougal" were the outcome of the war of Secession, upon which the "Relief," "Missouri" and "Maine" represent an advance measured only by the advance in marine architecture. The interior economy of such hospitals is on the lines of other like military organizations.

Troop ships in the United States service have commodious

sick-bays, under command of the ship's surgeon, which accommodate from 20 to 40 patients, and are managed much as is a post hospital.

Railroad ambulance trains are transient hospitals on wheels which have a prescribed personnel with adequate *matériel*.

THE PROVISION AND TRAINING OF THE ENLISTED PERSONNEL.

The necessity for a trained body of sanitary soldiers working under the immediate direction of medical officers has been recognized by military sanitarians, certainly since the days of the Napoleonic wars, and more or less efficient organizations of this character have existed in some armies for that time. In the army of the United States up to 1887 the work pertaining to the interior economy of the medical department was done by men detailed on "extra duty" from the line of the army; their connection with the department was of the most temporary character, and they no sooner became useful than they were returned to their companies, and others, uninstructed, detailed in their stead. The logic of the situation forced the organization of an ambulance corps during the war of the Secession, in spite, strange to say, of the most determined opposition from the military authorities; but that opposition was strong enough to prevent a specially enlisted force for this purpose, and it and the field hospitals continued to be manned by temporary details from the line. This opposition was so far-reaching that, notwithstanding the fact that a hospital corps had existed in the regular establishment for eleven years, and such an organization was a recognized part of most of the State forces, Congress failed to provide a hospital corps for the volunteers of 1898.

The Hospital Corps of the United States army is a body of soldiers whose special function is the care of the sick and wounded under all conditions of service. Its present strength is about 3,000 men, 20 per cent. of whom are non-commissioned officers.

The grades are Sergeant First Class, Sergeant, Corporal, Lance Corporal, Private First Class, and Private. Privates are enlisted from civil life by authority of the Surgeon General or Chief Surgeon; or are transferred from the line by the Secretary of War or a Department Commander.

On enlistment the recruit is ordinarily assigned to a company of instruction for four months' preliminary training, and is thereafter transferred to one of the various detachments serving

wherever the army may be. In active service there is a more detailed organization, which will be considered later.

The preliminary training, which is necessarily theoretical, is of two kinds, military and technical. The military instruction is for the most part identical with that for other recruits. In drill regulations the Hospital Corps men are taken through the school of the company, including in most services the manual and use of firearms. This, however, is not the case in the United States army, instruction in the use of arms not being authorized.

It goes without saying that the Company of Instruction takes care of itself, cooks its own food, polices its own quarters, grounds, etc., and performs the numberless minor duties required of all military bodies.

The technical instruction is in the direction of the special work of the sanitary soldier, and is imparted by lectures, recitations, demonstrations and practical exercises.

When sufficiently proficient the recruit is assigned to some post detachment where his practical work begins as nurse, cook, dispenser, clerk, ambulance driver, attendant, etc.

The duty of training his men must necessarily fall upon the shoulders of the medical officer, as does like duty regarding the combatant soldier fall upon the line officer, and the value of the man is to a considerable extent determined by the character of this instruction. There can be no specialists in the Hospital Corps any more than in the Medical Corps. Each man should be equal to the performance of any duty that an emergency might place upon him; and while, of course, it is recognized that no man can do all things equally well, he must at least be able to do his full duty in any position.

Privates First Class and Corporals are appointed on recommendation of immediate commanders, without examination. Sergeants are appointed from these two classes after a written and oral examination. Sergeants First Class are appointed from Sergeants who have served as such at least one year, and after a competitive, written and oral examination. The pay and allowances of a Sergeant First Class approximate one hundred dollars monthly, and his duties are thus described in regulations: "To nurse or supervise the nursing of the sick; to compound and administer medicines; to look after and distribute hospital stores and supplies; to supervise the preparation and serving of food; to care for hospital property; to maintain discipline in hospitals,

and watch over their general police; to prepare reports and returns; to supervise the duties and assist in the instruction of the members of the Hospital Corps in garrison and field, and to perform such other duties as may, by proper authority, be required."

From this it will be seen that the function of the Hospital Corps is broad enough to cover almost all the work of the Medical Department. A noncommissioned officer or even a private may be the only medical attendant of a considerable body of men; consequently the average of all the members of this organization must be high, though all must at times be hewers of wood and drawers of water. The pay and allowances of a private have a commutation value of about fifty dollars monthly.

THE ARMY NURSE CORPS.

In European armies there are nursing sisterhoods, chiefly from the national churches, who have a defined relationship to the military body; and in the British army there is a nursing service known as "Queen Alexandra's Imperial Military Nursing Service," regarding the duties of which there are very specific regulations and the control of which lies in a mixed board, civil and military. Candidates for this service must be of "British parentage, between twenty-five and thirty-five years of age, possess a certificate of not less than three years' training and service in medical and surgical nursing in a civil hospital recognized by the advisory board, and furnish satisfactory references as to character, education, and social status."

When in April, 1898, hostilities between the United States and Spain began, it may be safely said that the army of the United States, consisting of twenty-five thousand men, had reached the highest state of efficiency in its history. There was one army corps, complete in every detail, but no trained reserve or reserve *matériel*. The Hospital Corps was barely adequate for the regular establishment, without a man to spare for any other purpose.

When the President called for volunteers, no mention was made of men for a hospital corps, because, as previously stated, Congress had failed to authorize the enlistment of volunteers for this service. The practical outcome of this was that the War Department was forced to transfer a certain percentage of men from the volunteer regiments into the Hospital Corps of

the regular army. The situation was not hopeful, and the sick were suffering.

In this stress the trained nurses of the United States offered their services, and the army and the people owe a deep debt of gratitude for the good work they did in the military hospitals in 1898 especially.

As the result of that war a nurse corps has now become a part of the regular Medical Department. The exact relation of this important addition to the nursing force is being determined by time and experience. Ultimately the department will train its own nurses, as it does the rest of its personnel. A training school will be established in some great military hospital, where everything pertaining to military nursing will be taught. Indeed, this is most necessary, as military nurses must learn military methods, which are very different from those obtaining in civil hospitals, and they must imbibe the military *esprit*, the discipline, and ability to control others. With these they will be fitted to take charge of the nursing detachments in our fixed military hospitals in active service, the personnel of which will come from civil life, and without these they can never be real "soldier nurses."

THE FURNISHING OF MEDICAL AND HOSPITAL SUPPLIES.

The Medical Department of the United States army under the law furnishes the medical and hospital supplies which its own officers use; but as this *armamentarium* is only a means to its own ends, this department is not in the same sense a supply department as are those whose sole function is that of supply. Indeed, in some armies the Medical Department has nothing whatever to do with the purchase of supplies of any character, but, as previously stated, the development is in the direction of autonomy in *matériel* as well as personnel, and it is now claimed by many that the sanitary service must lack in efficiency to the extent that it is denied the right to supply everything it needs.

At the same time, it must be recognized that the purchase, care and distribution of the medical supplies for large armies add immensely to the duties of a department, and demand a knowledge of business methods and many trades and products quite foreign to the training and experience of the civil practitioner.

· THE MEDICAL DEPARTMENT IN ACTIVE SERVICE.

“In theory, an army should be so trained for war as to be ready to take the field at literally a moment’s notice. The various parts composing it should be so organized that almost as quickly as the telegram flies, they can be brought together at any point, prepared to commence those combined actions by which a body of men are moved, fed, clothed, kept supplied with munitions of war, maintained in health or cured if sick, and to undertake all the engineering, mechanical, strategical, and tactical movements which constitute the art of war.”

It goes without saying that such an organization should be proportionately strong in all of its constituent parts, or else when the stress comes the weaker part will fail and the whole apparatus be hindered or even put out of operation. Food, transportation, engineering and medical supplies, are preeminently necessary in the prosecution of a campaign; and it has been well said that “it is a narrow and dangerous view which sees in war merely the movements of the soldier, without recognizing the less seen agencies which insure that the soldier shall be armed, fed, clothed, healthy and vigorous.”

In actual service the work of the medical department is of the most arduous and complex character, but may be epitomized in a single phrase, *to free the front of the army of its invalids*. This is the essentially military duty of the medical department, and upon its satisfactory performance the successful outcome of a campaign may depend.

A single illustration of the magnitude of the task will serve. “In 1863, at the battle of Gettysburg, 14,193 of the wounded of the Union army were left on the field of battle, requiring professional care, and 6,802 of the opposing force, in all, 20,995. The strength of the Union army, which provided accommodations for these wounded, may be considered as 90,000. So that by one *coup* a number equal to more than 23 per cent. of its strength suddenly required succor and professional care, shelter, food, and transportation.”

Allusion has heretofore been made to general regulations, the code of laws, rules, and orders governing armies under all conditions of service. In addition, there are also special regulations for troops in campaign, which in the United States army are now called Field Service Regulations.

The *Réglement sur le Service de Santé en Campagne* of the

French Army may be accepted as a model for all. Of these a recent issue of the *Broad Arrow* says they "are marked by a thoroughness and attention to detail which, if carried into effect in war-time, will result in the complete efficiency of their hospital service and a corresponding diminution of suffering to the sick and wounded. The tactical employment of the ambulance service is most carefully treated, and what is remarkable is the provision made for its presence with the most advanced troops."

The duties of the medical department in active service are thus outlined:

First. The origination, development, and execution of sanitary measures to preserve the health of soldiers.

Second. The care of the ill and injured in camp, on the march and in battle.

Third. The examination of the sick and wounded to determine who shall remain with the command and those who shall be sent back to the base.

Fourth. The care of those who are to remain, and the sending back of those transferred to the base.

Fifth. The suppression of epidemics.

Sixth. The establishment of hospitals of different kinds to meet all requirements of the service.

Seventh. The organization of the sanitary service in siege operations.

Eighth. The supply of the various sanitary organizations with medical and surgical *matériel*.

In the field the Medical Department of the United States Army is charged with the following duties:

(a) The initiation of all hygienic measures to insure the good health of troops.

(b) Management of epidemics among the inhabitants of the country under military control to prevent infection of new territory or of the army.

(c) Care of sick and wounded on the march, in camp, on the field of battle, and after removal therefrom.

(d) Methodical disposition of sick and wounded so as to assure the retention of those effective on the field of battle and to relieve the fighting force of the noneffective.

(e) Transportation of sick and wounded.

(f) Establishment of new hospitals and utilization of old

ones sufficient in number and capacity to care for all sick and wounded.

(g) Supply of troops and hospitals with all articles needed for the care of sick and wounded.

(h) Preparation and preservation of individual records of sickness and injury in order that claims may be adjudicated with justice both to the Government and the soldiers.

It will be observed that nothing is said of the organization and training of the personnel, for that is essentially a peace function. Any part of an army whose training is undertaken after war is declared, is not likely to be efficient before the war ends, for in these days wars will be "short, sharp, and decisive."

In European armies this training is altogether possible, since every sound man must serve, and the civil physicians of those countries are all more or less trained soldiers. In Great Britain extraordinary efforts are making to encourage a dissemination of military knowledge among medical men, but in the United States neither the people nor the medical profession seem to be impressed by the necessity for such action.

The passage from a state of peace to that of war is not necessarily attended with great confusion if every thing has been prearranged, and all *matériel* in store. On the outbreak of hostilities the garrison hospitals of a well-organized medical department are expanded into general hospitals and manned by a designated trained reserve, who relieve the "active" sanitary personnel for duty at the front; each man falling into his proper place, the duties of which he is quite familiar with, if not by actual experience in war at least through precept and practice.

The lines of sanitary assistance are practically identical in all active armies. In battle each fighting unit is responsible for its wounded, from its skirmish line back to its own aid station. There the wounded are left, to be taken thence by a highly specialized organization variously named in different armies, but in all with identical function. This organization is essentially a "flying hospital," and in the United States army is called an Ambulance Company. The Ambulance Company is responsible for all invalids in the zone between the regimental aid stations and the field hospitals, and is the principal factor in freeing the front of the army of its sick and wounded. The Ambulance Company is not so called because part of its equipment is am-

balance wagons, but because of its extreme mobility, and all its equipment has this fact in view.

This Company establishes and mans the dressing station, to which it transfers the wounded from the aid stations at the front. The dressing station may indeed be the only field hospital available for some time if for any reason—and in active service there are often such—the field hospital fails to arrive. At this station the wounded are fed, redressed, and emergency operations done; then in due time they are moved back to the field hospital, at which point the Ambulance Company rendezvous after it has cleared the front of wounded. Its function here is to assist in manning the field hospital and also in carrying the wounded from it still further back to boat, train, or fixed hospital.

The field hospitals are also intended to be mobile and to follow closely the command to which they may be assigned, but their mobility cannot equal that of the Ambulance Company, which must always be up with its command, no matter what the conditions may be. The field sanitary organizations on the line of communication are the advanced supply depot, fixed hospitals, and rest stations; and at the base, the base hospital, supply depot, and convalescent camp. The special organizations are boat, ship, and railroad ambulances.

Each one of these various units has a definite function, a fixed personnel, and prescribed *matériel* equal to the requirements of its particular part of the work, all of which are laid down in regulations and regarding which further remark here is not deemed necessary.

It has been said that war is a widespread epidemic of injuries and special diseases, whose victims are the young and strong, the flower of the race, ordinarily little exposed to these conditions. To meet this epidemic medical departments exist and their entire training, medical and military, has this contingency in view. The statistics of war appall one with the magnitude of the casualty list. In the United States army during the war of Secession 6,454,834 cases were reported on the medical returns, of which number 210,400 died of disease and 90,969 of wounds. In the German army during the Franco-Prussian war 757,200 cases were reported, of which 17,332 died of disease and 28,278 of wounds. In the Turco-Russian war the Russians reported 919,315 cases, of which 45,791 died of disease and 21,699 of wounds. According to the estimates of statisticians there perished in wars during the

last half of the 19th century 2,500,000 human beings, while there was expended to carry them on no less than the inconceivable sum of \$13,000,000,000.

If these statistics be correct, then during that period the medical department was immediately responsible for fifty million soldiers—responsible not alone for their professional care, but for their every material want.

The 20th century has begun as did the 19th in the midst of wars and rumors of war. We as a nation have grown rich and great, great in the arts of peace, but we are yet novices in the art of war. Our military resources are inexhaustible, our military availability is to-day almost negligible.

We have taken upon ourselves the responsibilities of a world power. We have to be consulted in all matters of world politics, and yet we are not in the least prepared to sustain by force of offence or defence, any position we may be thrust into which will threaten our national honor or integrity.

We cannot escape war, and the medical profession cannot put aside its responsibilities in this direction until war comes, for if it does, disaster to our forces is sure to result. It is the bounden duty of every American physician to know at least enough of the special work of the Military Medical Officer to enable him to intelligently take his place with the other soldiers of our country when the call to arms sounds. Such has not heretofore been the case, and such will not be unless, in time of peace, our medical students are required to have some knowledge of this subject, as a prerequisite to graduation.

Nay, more: Military sanitation should be a subject in the State examinations, and no physician should be licensed to practice medicine who could not demonstrate the ability to perform, at least, the elementary duties of a medical officer of Volunteers in war time.

THE VICTIMS OF THE MEDICIS AND THE BORGIIAS IN FRANCE FROM A MEDICAL STANDPOINT.

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In going over the history of the XVI Century a series of facts will be found which prove the rapidity with which the Italian customs spread throughout France. Letters and arts reached a high point of perfection, while the passions only became exasperated. Like the Italian prince, the courtier no longer saw any limit to his ambition and any means were acceptable which might bring his projects to a successful outcome. Italy offered him a sure and rapid means to rid himself of those who were an obstacle to his designs, and this mysterious means was poison. It accomplished the end without noise and without the loss of blood and he who had administered it to his victim could follow the progress of the slow and terrible death that surely came. He saw the pale and convulsed face of his adversary, heard the cries of agony and all this time he knew that no sign would denounce him as guilty. The same care that was given to improve the study of arts was used in the practice of poisoning. It was the epoch of fêtes and when one wished to give death to his enemy in the midst of a ball, with the shake of the hand the fingers of his victim were torn with the ring armed with poisoned claws. It was the epoch of the Borgias. The epidemic of poisoning made fearful ravages and L'Estoile says, in speaking of the execution of a magician named La Miraille, that at Paris in 1572 the number of sorcerers and manufacturers of love philters was above thirty thousand. History has preserved the name of the most celebrated among them and everyone is familiar with the Florentine René Bianchi or Bianco, who came to France with Catherine de Médicis and who, at the same time, was her confidant and accomplice. He it was who furnished the Queen with poisoned substances of which she had need and it is well known that she passed much time in his shop. Later on, René became an assassin and finally died miserably. A famous astrologer, Côme Ruggieri, was also looked upon at this time as a poisoner;

he was accused of having hastened the death of Charles IX with Môle and Coconnas and was condemned to the galleys. The prior of Cluny and his valet, Saint-Barthelemi, were also ranked among those who employed poisons. They caused all those who were any hindrance to them to disappear, even their physicians, in order to avoid paying them. The monks and the nuns who had tried to denounce them suddenly died and in less than one year they caused from sixty to eighty persons to perish.

All these poison dramas have not come down to us, but those which have been related by the contemporary historians are sufficient to show how frequent they were. What still more confirms their great number is the tendency of writers to class all sudden deaths occurring in full health among them. The "Histoire universelle," by d'Aubigné, published at Amsterdam in 1626, contains many instances of this kind. Pope Marcel the Second was poisoned on the twenty-second day after his election "because he wished to reform the Church. Thus have the Italians written before us, who remarked that in this design he had begun by not changing his name." During the religious wars poison was frequently employed and the following is an anecdote related by d'Aubigné, which took place at the siege of Châtellerault and Poitiers in 1569: "Upon this same day was executed Dominique d'Albe, captured by the people of Monsieur, for having killed or poisoned his master, the Admiral; for the head of whom, likewise on that of Vidame de Chartres, Count de Montgomeri and others, there had been made a promise for the sum of fifty thousand escus, for the Admiral, and lesser sums for those of less importance, and in order to assure the compensation and the justification of the assassins, it was expressed by a decision pronounced in the Court of Parliament in Latin, German, Spanish, English and French." In 1570 Charles, Prince of Spain, also died of poisoning. "He allowed himself to call cruelties, the exploits of the Duke d'Albe in Flanders and to express his detest for him by wishing for executioners; it was known that he had had made two pistols to carry in his boots, that he placed them under his pillow with other arms at night; it was suspected that his intent was to kill Jean d'Austrie, his bastard brother; and all this was declared by his confessor. And still more a Jesuit said

that he had considerable commerce with France, even with Admiral de Chastillon. The King of Spain became suspicious that his son wished to avenge himself upon him for having taken away Queen Elizabeth, who was devoted to him, so that the affair was communicated to the Inquisition. It was resolved to make him prisoner and by the artifice of the one who had made the pistols, the door of his room being unlocked, the King had all those whom he believed to be enemies of his son enter the room before him. They found him sleeping so soundly that he was with difficulty aroused. Then seeing his father and the others he cried out that he was dead. The King after menacing him a little said that he only wished to chastise him paternally. All his royal belongings were removed, as well as his servants, and in their place guards dressed in mourning were substituted. He endeavored to commit suicide in various manners; in the first place he threw himself into the fire, from which there was much difficulty to withdraw him; for two days he would not drink and on the third he nearly suffocated on account of taking too much water; he then tried starving and then overeating, and also by a diamond that his guards seized from him just as he was about to swallow it; finally in July he was condemned to be poisoned and his death was sealed in November. A few days later Elizabeth, Queen of Spain, went through the same death entirely by the authority of the Inquisition."

Cardinal de Chatillon, who was a refugee in England, died suddenly at Canterbury in 1571, just as he was preparing to return to France. His mother declared that he had been poisoned. "An autopsy was ordered. Upon opening the body the physician who was in charge, having found the liver and the lungs corrupted, said that it was most marvellous that the Cardinal had lived so long with such deteriorated organs * * * but it was a question only of poisoning, when, after having washed and cleansed the stomach some spots were found on its surface, as well as a perforation in its walls, with the tissues lacerated all about the orifice, as the doctor said he saw. But the condition of affairs was not so evident so that the others present were able to see only a few spots on the sides of the stomach. It was then the physician who secretly told the surgeon and who repeated it to Madame de Chatillon that he thought that somebody had

administered some corrosive substance to the Cardinal which had resulted fatally." Cabanès and Nass, who relate this story in their work entitled "Poisons et Sortilèges," Paris, 1903, comment upon the results of this autopsy and come to the conclusion that the Cardinal died of a subacute peritonitis resulting from a perforation of a gastric ulcer.

We now come to the death of Jeanne d'Albret, Queen of Navarre, who, according to d'Aubigné, and nearly all other historians, was the victim of poison given her at the instigation of Catherine de Médicis. "The Queen of Navarre was engaged in the preparation for the marriage of the Prince of Béarn at Paris, when she was taken with fever, which she only resisted four days; her death was caused without any secrecy by a poison communicated to her brain by scented gloves and which were given to a person called Messer René, a Florentine, since then execrable, even to the enemies of this Princess, by a so-called Saint Barthelemi, a great poisoner, and accused of having given death to several princes. The latter was the servant of the Abbé of Cluny, a bastard of Claude de Guise, and who bore the name, and both of them were in the employ of the Cardinal of Lorraine. Thus died this Princess, a woman only in sex, her entire soul given up to virile things, the mind powerful in great affairs and the heart invincible in adversity."

At this time perfumed gloves were very frequently used for murder, but it is a very difficult matter to imagine what substance would emit sufficiently poisonous vapors that would kill in a few minutes. It has been supposed that Jeanne d'Albret was presented with a box having a double bottom and that in the upper part were placed the gloves, while in the false bottom toxic plants like opium, belladonna, hyocyamus, etc., had been deposited. These means have been related by Porta in his "Magie naturelle" and he says that it was given so as to allow the administration of the poisons during sleep, by exposing the box under the nostrils of the sleeper. On the other hand, there are historians who deny that Jeanne d'Albret was poisoned, and among them may be found many who are authority, such as Palma Cayet, the assistant preceptor of the Prince of Navarre, who later on became Henri IV. He believed that the Queen died of a pulmonary abscess and states that her surgeon performed the

autopsy. The body and skull were opened in the presence of the Queen's physician and several officers of her household, who were still alive at the time when Cayet wrote. All were called upon to note the disease in the lungs and their testimony appears to fully establish that it was this that produced the Queen's death, so that poisoning would appear to be merely a myth.

In 1574 we again meet with the most questionable case of poisoning, that of the Cardinal of Lorraine. It was said that he was poisoned by Saint Barthelemi. The latter was to give him money and he obtained fifty to sixty pieces which he "perfumed with greater subtlety than the gloves of the Queen of Navarre," and arranged the purse likewise. As soon as the Cardinal touched the pieces of gold he fell dead. Now in reality he died on September 26th from a pleurisy that he contracted during the procession of the Battus at Avignon. During this procession the pilgrims were obliged to march with the feet and head bare and it was this custom that produced the disease from which resulted the Cardinal's death.

During the same year another attempt at poisoning was directed against the Duke of Amiville. D'Aubigné says that "another attempt at poisoning, composed by the wife of the defunct Corbouzon, placed by her in the hands of the corrupt physician of the Marshal d'Amiville, was undertaken; this was discovered by a valet of the King of Navarre, who warned the Duchess of Montmorenci and her brother-in-law." Then in 1574, Coffé, Marshal of France, died poisoned. In December, 1585, it was the Duke of Anjou. As his valet had forgotten to test his wine, it was immediately noised about that he had died from poison administered to him by Catherine de Médicis. "The Queen Mother was obliged, so good was her reputation, to protest against the accusation brought against her of having wished to get rid of her son." It is more probable that they died from their excesses, but nevertheless two persons, Salcède and Baza, were arrested in 1587 and were put to torture, having been found guilty of this tentative against the Duke of Anjou. On March 5, 1588, the Prince of Condé died at Saint-Jean-d'Angély after an illness of forty-eight hours and d'Aubigné says that "we will see the Journée des Barricades where we shall find very sad matter

and confusion, without therein mixing the death of the Prince of Condé, which occurred from poison on the 5th day of March; on the suspicion of which the Princess, who had just given birth to a child by Henri de Bourbon, to-day Prince of Condé, was poisoned, together with some officers of the household; and upon the absolute report of the physicians, the affair was examined with all rigor; Breillant, comptroller, was drawn by four horses, and the princess, not having sufficient proof against her, or by the discretion of the State, was allowed her freedom." De Thou also relates this death and the acquittal of the Princess. "She was acquitted by Parliament and gave up the Calvinistic religion shortly afterwards; one found the two absolutions, temporal and spiritual, a little too united one with the other."

All the physicians called to examine the cause of death considered that it was due to poison, but Cabanès and Nass, who have recently studied this question, came to the conclusion that the Prince de Condé died from a subacute peritonitis following perforation of a gastric ulcer. They base this diagnosis upon the fact that on several occasions he was seized with vomiting and violent colics and, although these are certainly symptoms of the affection referred to by these authorities, they consider them as only temporary and do not attach the importance and the duration that they should have had, if the Prince was really the possessor of an ulcer. This hypothesis is not inadmissible, but it would appear to me that that of poison, verified by all the physicians who had seen the cadaver, is not to be rejected without very serious consideration. Cabanès and Nass endeavor to explain this death from natural causes, just as they do in the case of Jeanne d'Albret, Cardinal de Chatillon and the Cardinal of Lorraine, in order to endeavor to improve the memory of Catherine de Médicis. This endeavor is extremely arduous, because all contemporary historians represent her to us as astucious, corrupted, without sincere convictions and devoid of virtue, having the taste for stormy proceedings and only consulting in her acts those things which were to her interest. One is certainly obliged to admit that those who knew her were far better placed to judge her than we are, and all of them are unanimous respecting her defects. Perhaps they have exaggerated them and have had a too great tendency to credit her with all the vices

of her ancestors, but, if we are obliged to reject her reputation as a poisoner in the legends, we feel compelled to point out that, if the original sources are consulted, one will always find a certain amount of truth attached to them.

In 1600 the King was the victim of an attempt at poisoning. "Soon after the departure of the Duke of Savoye, it happened that a vivandière, who became ruined by following the King's army, addressed herself to the Count of Soissons, recalling to him the discontent that she had had on account of the King and begged him to allow her husband to lodge in the kitchen, by which means the King was poisoned; the Count asked the King for a faithful servant to hear with him that which this woman proposed to him at the second assignation; L'Omenie chosen for this purpose, having heard this unfortunate person, she was seized and burned alive in Grève, although on account of her losses she was found insane in every sense. There was also another seizure and punishment of a certain Piémontois, upon the designs of which some have written that the Duke of Savoye had held the affairs in the balance; but it has been verified since that he had in no way been mixed up in such kinds of fraud, which never enter generous hearts."

The use of poison had become so common in France that the people of the army employed it to reduce the enemy. Under these circumstances they placed poisonous substances in a well or a fountain and d'Aubigné relates a story of this kind which took place during the siege of Paris. "The exploits of this siege were not very hazardous, because, after a few small skirmishes near Monfaucon, the army went to Saint-Denis, where the Parisians hoped for more resistance than they had had; because the besieged did not allow the approaches to be formed without parleying; the army took ten days to gain some few lands, which were thought to be the stronghold; and then the King gave them a capitulation, which was found far too good by the people of the Army, among whom the much too favorable conditions of those who gave themselves up are reputed as a dishonor. They consequently had the article the least permitted in such affairs, which is to bring the pieces on wheels and even two large cannon, and before going out in order to reimburse such a great courtesy they poisoned the wells with ergot and other

artifices and filled the larger number of them with dead bodies." And finally Brantôme relates quite an original duel in which the chosen arm was a cup of poison; the adversaries were to drink one-half, but he, however, neglects to tell us what the issue of this new type of combat was.

The history of the small principalities of Italy is a long chain of crimes of every nature and especially dramas from poison. In this respect the family of the Médicis has become sadly celebrated and their court was always filled with tragic intrigues. The character of the two first grand dukes was a mixture of underhandedness, mercantile avidity and sanguinary perfidy, while at the same time prudence, political ability and a certain governmental science was mixed therein. Their acts show this peculiar character,—that beside the well-regulated administration and the love of arts that they always encouraged, one finds crimes of every description, treason, poisonings and so forth. Cosme the First, the first of the grand dukes, the destroyer of the Florentine Republic, possessed to a remarkable degree all the vices and all the qualities which we have just enumerated. His leisure moments were occupied in the study of chemistry and for these pretended experiments he had a laboratory constructed in the interior of his palace which was nothing more nor less than a poison manufactory. He studied the effects of poisons on animals and was enabled to calculate the necessary dose to kill those people who were in his way, and the number of poisonings is so considerable that it would be far too long to enumerate them here.

His son, François-Marie, who succeeded him in 1574, possessed all the defects of his father without having his qualities. Avid, dissipated and vindictive, he continued the long series of crime that he had seen accomplished by his father. The history of his love affair with Bianca Capello is a true drama. François de Médicis took a great fancy to her and thought of marrying her, finding no obstacle in the fact of his union with Jeanne d'Autriche. In order to attach her new lover as completely as possible to her, Bianca employed all possible means; superstitious, like all the Italians of her time, she gave him love philters, the use of which had been taught her by a certain Jewess. We unfortunately have been unable to ascertain the composition of these drinks. She

even went so far as to simulate a labor and caused to perish he who had procured the supposed child, whom she wished to make the heir of the Grand Duke. She finally married her lover after the death of Jeanne of Austria, but she was not long to bear the title of the Grand Duchess of Tuscany. On October 8, 1587, the Grand Duke was suddenly seized with a disease that his physicians qualified as intermittent fever and two days later Bianca was attacked with the same malady. François died on October 15th and fifteen hours later his wife followed him to the tomb. Both had been killed by a poison and not by intermittent fever. The poison had been given them by Cardinal Ferdinand de Médicis, who had never been able to accept this misalliance on account of his proud spirit. These suspicions were, for that matter, confirmed by his readiness to leave the red robe in order to succeed his brother. Later on, he was accused of the death of Gabrielle d'Estrées, but, as I shall point out, this is very questionable.

The pontifical court was not exempt of all the horrible disorders which made Italy desolate, a Borgia was Pope under the name of Alexander VI, and this name alone brings to mind all the cruelties which were committed during his reign. But the crime which pushed him and his family to the extreme limits of refinement was without any doubt poisoning. He possessed the secret of a poison which killed at variable times and surely. This family possessed poison which killed in a day or in a year, according to their desire. They were infamous poisons, which made wine better and caused the bottle to be emptied with greater pleasure. One thought himself intoxicated when in reality he was dead, or, on the other hand, a man was suddenly seized with lassitude, his skin became wrinkled, his eyes sunken, his hair whitened and his teeth broke like glass when he partook of bread; he could no longer walk and merely dragged himself along; he could not breathe and only gasped; he no longer laughed, no longer slept and he shivered in the full mid-day sun; from a young man he became an old one and thus he went through agony for some time and finally died. He died, and then it was recalled that six months or a year previously he had drunk a glass of Chypre at one of the Borgias'.

Alexander VI commenced a series of his horrible executions by the murder of Djem, the son of Mahomet II. He had been

captured by the cavaliers of Rhodes and was given to the Saint Father. Some time afterwards he was demanded by Charles VIII, King of France, who by this hostage hoped to obtain a more efficacious control over Turkey. He had hardly been given over to the French when the unfortunate Djem died from poison that had been given him by the Pope. By this treacherous assassination he received three hundred thousand ducats which had been promised him by the Sultan if he could do away with the son of Mahomet II. This death was due entirely to political reasons, because the Sultan was perfectly well aware of the part that Charles VIII would make his hostage play, and it was in order to avoid this that he advised Alexander VI to do away with his prisoner. Avid and wicked, the Pope in no way receded before any means which might bring about his political projects or to bring money into the sacks of his own treasury. As a natural heir to the Cardinals, he allowed them to become rich from their administrators and when he considered their fortune sufficient he gave them poison in order to come into possession of their money. The Cardinals of Modène, Mechiel and Arragon were thus poisoned in succession and the Cardinal Orsini, convicted of a plot against the Pope and his son Caesar, was arrested and put in prison. A few days after his incarceration he died poisoned; the Pope had given him his famous slow poison, *venenum attemperatum*. The entire Orsini family was stripped of its belongings, the men were killed, while the women and children were poisoned.

Caesar Borgia, the second natural son of Alexander VI and of the beautiful and intriguing Vanosa, was no less cruel than his father. He had his brother Jean Borgia assassinated and the body was thrown into the Tiber. At the head of an army of mercenaries he seized the best places in Romandiole, Imola, Forli, Faenze and afterwards imprisoned the chiefs of these States, who gave themselves up, at discretion. Cardinal Borgia, his cousin, died from poison that was given him. The principal Italian nobility finally united in order to rid themselves of this usurper. Being unable to overcome them by force Caesar resorted to perfidy. He pretended to make peace with them and luring them to Sinagaglia he did away with them, having given orders to have them strangled. The Cardinal des Ursins, who had declared himself a partisan of these

unfortunate people, was arrested in his turn and imprisoned in the Château Saint-Ange. Caesar then obliged him to sign an order by which all his places were to be delivered up to him and then afterwards poisoned him. Cardinals de la Rouère, de Capoue, Zéno and many others underwent the same death. According to Gordon, Alexander VI was the victim of the poison that he had prepared for others. On August 18, 1503, he had invited several Cardinals to dinner and a faithful servant had received the order to pour out to them a special wine which had been poisoned. The Pope thus hoped to do away with nine Cardinals at a single stroke and fill his sacks with numerous ducats. Unfortunately for him he entered, accompanied by his son Caesar, before the hour fixed for the rendezvous. They asked to drink and a servant who had not been advised about the plot poured them out some of the wine destined for the Cardinals. Its effect was sudden and a few minutes after Alexander VI rolled on the ground, the prey of horrible sufferings. He was taken up unconscious and in spite of the most energetic care he died during the evening. Caesar Borgia, who had also partaken of the poisoned wine, was less ill than his father and owed his salvation to an antidote which was the most efficacious at the epoch and consisted in opening the belly of a mule and placing himself within it. This story is also given by another historian of the Borgia family, namely Guichardin. It appears that he happily terminated the horrible drama which the life of this Pope represents. Just like the end of a novel the reader is satisfied to learn that he who had committed the murders by poisoning is at last caught in his own trap. Unfortunately for the moral part, this story is purely a myth. It is formally denied by Burchard, all of whose recitals are stamped with the greatest frankness. He states that the Pope died very rapidly from a malignant fever and there is no reason to doubt this version. Voltaire was one of the first to rise against the legend of the poisoning and here are the reasons that he gives in his dissertation on the death of Henri IV: "J'ose dire à Guichardin; l'Europe est trompée par vous et vous l'avez été par votre passion; vous étiez l'ennemi du pape, vous en avez trop cru votre haine et les actions de sa vie. Il avait à la vérité exercé des vengeances cruelles et perfides contre des ennemis aussi perfides et aussi cruels que

lui. De là vous concluez qu'un pape de soixante-quatorze ans n'est past mort d'une façon naturelle; vous prétendez sur des rapports vagues, qu'un vieux souverain dont les coffres étaient remplis alors de plus d'un million de ducats d'or, voulut empoisonner quelques cardinaux pour s'emparer de leur mobilier. Mais ce mobilier était-il si important? Ces effets étaient presque toujours enlevés par les valets de chambre avant que les papes pussent en saisir quelques dépouilles. Comment pouvez-vous croire qu'un homme prudent ait voulu hasarder, pour un aussi petit gain, une action aussi infâme, une action qui demandait des complices et qui tôt on tard eut été découverte? Ne dois-je pas croire le journal de la maladie du pape plutôt qu'un bruit populaire? Ce journal le fait mourir d'une fièvre double tierce; il n'y a pas le moindre vestige de preuve de cette accusation intentée contre sa mémoire. Son fils Borgia tomba malade dans le temps de la mort de son père; voilà le seul fondement de l'histoire du poison!"

After the death of his father, Caesar led a miserable and adventurous existence. He was arrested by Julius II, then he went to Spain, where he was again imprisoned, but, having succeeded in escaping he took refuge with his brother-in-law, Jean d'Albret, King of Navarre. He placed himself at the head of his army against the Connétable of Castille and was killed by a lance on March 12, 1507, at the siege of the Château of Viane. This was far too glorious a death for this rascal, who, in spite of all his faults, was endowed with a true courage extending almost to bravery. He had practised during his entire life the proud motto that he had taken, namely, "Aut Caesar, aut nihil."

The fable handed down to us relative to the death of François II is that he was a victim of poison and without doubt everyone is familiar with the story of the famous bonnet that the King wore to hunt and which was supposed to have contained a certain white powder placed therein by Ambroise Paré, which gave rise to vapors, and these being absorbed, soon killed. This legend had for a starting point the mysterious conduct of Catherine de Médicis. For that matter she was not at the stage of essays and trials, because her taste for alchemy was everywhere well known and it was also current that she spent long hours in the shop of René the Florentine, her confidant and even accomplice, because his store

was nothing more or less than a laboratory for the manufacture of poisons. Many people were accused of this hypothetical crime and these suspicions are found summed up in the life of Gaspard de Coligny, the author of which is unknown, and I here make the following quotation: "On ne soupçonna Paré, de lui avoir mis du poison dans l'oreille, lorsqu'il le pensait et cela par le commandement de la reine mère qui ne voioit point d'autre moïen d'assurer son autorité. Il y en eut aussi qui en soupçonnèrent les princes et l'amiral et peut-être seulement parce qu'en l'état où ils les veioient ils s'étoient mis en tête qu'il n'y avoit point de crime qui leur dut faire peur."

As in the source of every legend the causative fact is to be found, it is essential to rapidly outline the portrait of this Prince and to show by the symptoms of his disease whether or not his death should be included in the long series of poisoning cases which occurred. François II was born in 1543 of a syphilitic father and in his "Histoire de l'Etat de France sous le règne de François II," by Régnier de la Planché, published at Paris in 1636, the following description is to be found: "Ce prince malsain et qui, dès son enfance, avoit montré de grandes indispositions pour n'avoir craché ni mouché * * * avoit un visage blafard et bouffi * * * comme aussi se formoit une corruption en l'une de ses oreilles qui faisoit l'office du nez, lequel il avoit fort camus." He was a degenerate and d'Aubigné gives a very curious explanation of this condition, which runs as follows: "La reyne avoit eu ses menstrues si tard, que son fils estoit de ceux que l'on appelle mal-nez, ne se purgeant ni par le nez, ni par la bouche, laquelle il portoit ouverte pour prendre son vent, dont il se forma un abcès à l'aureille, et puis des coliques fréquentes, marques mortelles à tel aage, ne promettant de luy aulcune durée aux plus advisez." And further on the same writer adds that he had "a yellow face covered with eruption, a stinking breath and other signs of a bad health."

The King presented all the evidences of a marked degeneration; he had adenoids, a discharge from the ear and from this arose a marked deafness. In his early life he also had a rebellious diarrhoea, which contributed considerably to make him feeble and weak. This condition of affairs was described by his father in a letter to the preceptor of his children,

d'Humyères, dated at Montreuil, September 16, 1549. "Mon cousin, j'ai receu deux lettres de vous, les derniers du onzième de ce mois, per lesquelles j'ai veu que mon fils le Dauphin se trouvoit mal d'un flux de ventre procédé, ainsy que dyent les médecins, des humeurs cuites et accumulées de dans son corps pour ne se mouscher point la plupart du temps." At this time the Dauphin was six and one-half years old and his general condition was already seriously involved and it remained poor during nearly his entire life. In 1555 he was 12 years old and an Italian ambassador, by name Giovanni Capello, speaks of him as follows: "Leurs Majestés ont trois fils et trois filles; le premier des trois fils est le sérénissime dauphin * * * "il parle peu, il est peut-être un peu bilieux. Pour les traits, il tient plus de la physionomie de sa mère que de celle de son père * * * il a plus de plaisir au jeu de la lance, de l'épée, de la balle et de la paume qu'à l'étude des lettres. Il aime beaucoup la sérénissime petite reine d'Ecosse, Marie Stuart, qui lui est destinée pour femme. C'est une fort jolie petite fille de douze ou treize ans. Il advient parfois que se faisant tous les deux ces caresses, ils aiment à se retirer dans un coin des salles pour qu'on ne puisse entendre leurs petits secrets." This marriage took place on April 24, 1558, at which time François was 14 years and three months of age. His wife, extremely advanced for her age, intended that her husband should fulfill his position and her unfortunate spouse must have completely expended the little vigor that he still possessed in order to satisfy her and the Duke d'Albe has said "he died of Marie Stuart."

He was called to succeed his father on July 10, 1559, and Régner de la Planche states that at this time he was in a miserable condition. The King's illness preoccupied the royal house and physicians and surgeons consulted in turn, and as a remedy they advised a change of air as frequently as possible. Consequently, the greater part of his reign was passed in travels and, under their influence his health for a while appeared to be improved. This arrest in the progress of the disease was only temporary and soon it became more serious than ever before. In the work already alluded to, de la Planche says "Le dimanche 15 novembre 1560, sur le soir, estant le roi à vespres au Jacobins, il luy prist un grand esvanouissement, qui fut cause qu'on l'emporta hastivement en sa chambre; et

revenu de sa p^âmoison commença à se plaindre de la tête en la partie de l'aureille gauche, en laquelle il avoit eu de tout temps une fistule, en sorte que de la douleur la fiebvre le print." This condition remained stationary until the 25th of the same month, but from this time on the disease made rapid progress. A consultation took place between Ambroise Paré, Nicole and Servais, in which they discussed the propriety of trephinning, which was not undertaken and the King died on December 29, 1560, after a reign of 17 months.

Having followed all the steps of the King's illness, it would seem absolutely useless to discuss the hypothesis of poisoning. François II, who was a degenerate, not built for a long life and the violent exercises to which he gave himself up, along with his premature marriage, soon removed from him what little strength he possessed. At the latter part of his sickness he had in all probability a meningitis with purulent absorption. No autopsy was made, but in point of fact it was not necessary, and, although, at this time, no diagnosis was made, it is evident that his death was not the result of poisoning.

The death of Charles IX following a disease, the nature of which the physicians were not able to categorically decide, was regarded by the courtiers and many historians as the result of poison. This supposed crime, attacking this prince at the age of 23 years, gave rise to a long series of trials and the two individuals accused were beheaded. The constant presence of Catherine de Médicis in the chamber of the King during the latter part of his illness, the introduction at the court of the Italians of her suite and their deplorable habits were not without some influence in the development of the suspicions of the people. Whether these had any foundation or not the history of the illness of the King can alone prove, or disprove. Charles IX had a pathologic heredity of the most marked kind and no one is ignorant of the fact that his grandfather was a syphilitic. His own father was no less debauched than his grandfather, and consequently their descendants were all degenerates to a more or less considerable degree and all the brothers of the King were afflicted with pulmonary consumption.

A description of the King does not show any very great difference from that of his brothers. "Il estoit grand de taille, mais un peu voûté, avoit le visage pâle, les yeux jaunâtres, bilieux et menaçants, le nez aquilin et le col un peu

de travers." From this it consequently appears that he was feeble and his education was such that he was greatly overworked. From his earliest youth he gave himself up with ardor to violent exercises and possessed a real passion for riding and hunting. Brantôme affirms that he contracted a venereal disease, a fact which would prove that, at the same time, he also committed other excesses. His character corresponded quite well to his external appearance and tastes, and, according to de Thou, "il estoit d'un tempérament colère et emporté et l'exercice continuel et violent du cheval joint à la fatigue des veilles fortifioit encore ce penchant, en sorte que, malgré sa dissimulation profonde il se laissoit quelquefois emporter à une sorte de fureur."

He was called to the throne at a very early age and was obliged to submit to all the hardships of a reign which was, according to everybody, one of the most unfortunate in history. Badly advised by everybody, he allowed to be committed, or rather ordered, the massacre of Saint Bartholomew. He was already ill at this time and followed out a treatment under the orders of Ambroise Paré. A few days later he called the great surgeon to him and had the following conversation with him which has been given by Sully in his memoirs. "Ambroise, je ne sçay ce qui m'est survenu depuis deux ou trois jours; mais, je me trouve l'esprit et le corps grandement esmeus, voire tout ainsi que si j'avois la fièvre, me semblant à tout moment, aussi bien veillant que dormant, que les corps massacrés se présentent à moy les faces hydeuses et convertis de sang; je voudrois que l'on n'y eust pas compris les imbéciles et les innocents."

The King was devoured by the regrets of his crime; he did not sleep and his rest was haunted by fearful nightmares. This loss of rest, to which was added the fatigue resulting from hunting and the violent exercises to which he gave himself up during the day, were not long in aggravating his condition. The cough, to which he was subject, increased and along with it he rapidly lost flesh.

The following year, in 1573, the King wished to accompany his brother the Duke of d'Anjou into his state, the latter having just been made King of Poland. He was, however, obliged to stop at Vitry, because he was taken with severe hæmoptysis. In spite of a few days rest in this town, it was

impossible for him to continue his trip and he was brought back upon a bed to Saint Germain en Laye. He did not remain here for any length of time, because the Duke d'Alençon was conspiring to carry him off along with his mother. Catherine de Médicis prevented the conspiracy from being accomplished, and had Charles IX transported first to Paris and afterwards to Vincennes. His illness continued to progress and his first physician, Jean Mazille, foresaw a fatal outcome and ordered a consultation and, as related by Sorbin, in his "Histoire mémorables des choses advenues pendant le règne do roi Charles IX," it was "advise qu'il il seroit purgé et saigné; ce que fut executé mais en vain, car ses forces diminuoient, à veüe d'oeil, et le voyoite-on descroître, pressé d'une courte haleine, qui l'a accompagné jusqu'a à la mort."

Brantôme also tells us that the physicians were absolutely ignorant as to what name to give the King's disease, in the following sentence: "Tant il y a qu'ils y perdirent leur latin, d'autant qu'ils ne peurent jamais bien cognoistre sa maladie, car il lui survint une fiebvre carratique qui tantost estoit quarte, tantost continue, et pensoit M. Mazille, son premier médecin, qu'il se porteroit de bien en mieux, ainsi que la fiebvre diminueroit." It was upon this ignorance of the physicians that the suspicions of poisoning were based, because it appeared that poison alone was capable of explaining the symptoms presented by the King, especially when it was learned "qu'aux extrêmes douleurs, il sortoit du sang par les pores de la peau de ce jeune prince, presque en tous les endroits. De là plusieurs conjecturèrent qu'il y avoit du poison mêlé à la maladie du roy, et à dire vrai il y avoit argument de penser l'un des trois, ou poison, ou art diabolique, ou intelligence avec ceux qui avoient eu le moyen de cognoistre la maladie du roy en en donner quelque résolution."

The accusation was formal and may be summed up in what was whispered at the court and among the people. Following the divulging of these rumors, la Môle and Conconnas were arrested, tried and beheaded on April 30, 1574. In their trial they were accused of having conspired against the life of the King, either by poison, or by terminating his agony by malice aforethought. It was especially upon this latter accusation that they were tried and condemned and they were convicted of having manufactured with the help of the

necromancer, Côme Ruggieri, wax figures which were enchanted and pierced in the region of the heart.

However this may be, under the influence of the progress of the disease, far more than under that of these superstitious practices, the condition of the King became worse and worse. He vomited bloody and purulent matter and then a remission occurred on May 29th, but on the next day he died at three o'clock in the afternoon at the age of 23 years, 11 months and 30 days, after a reign of 13 years.

His autopsy was considered necessary in order to enlighten the physicians in their diagnosis and the public opinion, which still persisted in believing that the death was due to poisoning. It was performed the next day, in the presence of Mazille, by the King's surgeons, Ambroise Paré and Guillemeau. The latter has left a report in Latin of the autopsy and I here append the French translation made by Brouardel and Giles de la Tourette.

“ L'an du Seigneur 1574, la veille des calendes de juin (31 Mai) a été faite l'autopsie du corps de Charles IX, très chrétien roi de France, avec l'assistance des médecins soussignés et des chirurgiens qui l'ont exécutée. Voici ce qui a été soigneusement observé et reconnu. Tout le parenchyme du foie est desséché, exsangue et tirant sur le noir depuis les parties les plus externes des lobes jusqu'à leur surface plate. La vésicule biliaire est vide, affaissée sur elle-même, noirâtre. La rate est saine. L'estomac et le pylore sont sains. Le colon est jaunâtre, les autres parties de l'intestine étaient saines. L'épiploon était de mauvaise couleur, très friable, rompu par places et entièrement dépourvu de graisse. Les reins, les uretères, la vessie, étaient sains. Le coeur était flasque et mou, comme desséché, tout le liquide qui se trouve ordinairement dans le péricarde ayant disparu. Le poumon gauche adhérait tellement aux parois thoraciques dans toute son étendue qu'on ne put l'enlever sans déchirer et arracher sa substance qui était en putrilage. On y trouva une vomique rompue, d'où s'échappa une humeur purulente, putride et de mauvaise odeur, en telle quantité qu'elle a dû refluer dans la trachée-artère et causer une mort rapide et imprévue, en mettant obstacle à la respiration. L'autre poumon n'était pas adhérent; il était plus volumineux qu'à l'état normal, de même que le gauche le dépassait en matière; gonflé et distendu, il

présentait une notable corruption. Il était pourri dans sa partie supérieure et rempli d'humeur pituiteuse, musqueuse, spumeuse, se rapprochant du pus. Le cerveau était sain."

According to the facts found in this report and the previous symptoms presented by the King, it is an easy matter to decide upon what disease Charles IX died. The frequent hemoptyses, the cough, dyspnoea, loss of flesh and finally the vomiting, leaves no doubt as to the existence of some pulmonary affection, namely phthisis. The so-called sweating of blood which the King presented towards the end of his life in no way alters this diagnosis, because it is not at all infrequent to meet with hemorrhagic purpura during this disease. Then again, during the end of his life, the King was afflicted with an intercurrent affection which very probably hastened the end. According to Brouardel it was a broncho-pneumonia and this hypothesis appears well corroborated by the findings at the autopsy. As to the accusation of poisoning, I believe that it is absolutely erroneous and that it was merely due to the condition and the mind of the people at this time. A single point appears obscure, namely, the condition of the liver and gall bladder, but, at the present time, no hesitation can be permitted, because their abnormal color can at once be attributed to postmortem changes. However, the results of the autopsy give no indication as to the name of the disease which ended in the death of Charles IX, and consequently, the public opinion continued to believe that it resulted from poisoning. Both the physicians and the surgeons refused to say anything and Brantôme relates how he went to see Ambroise Paré, in company with de Strozzi, in order to have more precise information which the great surgeon refused to give him. "Il nous dist en passant et sans longs propos qu'il estoit mort pour avoir trop sonné de la trompe à la chasse du cerf, qui lui avoit tout gasté son pauvre corps et ne nous en dist pas plus. Sur quoy aucuns prirent subject de faire pour son tombeau ces deux vers:

Pour aimer trop Diane et Cythérée aussi

L'un et l'autre m'ont mis dans ce tombeau icy."

The death of Gabrielle d'Estrées, mistress of Henri IV, who died in a few hours from a disease upon which the physicians of the time had only very vague notions, was regarded by the large majority of historians as the result of poison.

In order to verify this assertion which has been perhaps treated somewhat lightly, it is necessary to rapidly consider the circumstances which preceded the death and to establish, by basing oneself on the documents of the time, whether or not the symptoms presented by the duchess can only be attributed to poison. In 1599 the project of a divorce between Henri IV and Marguerite de Valois was on the point of being signed by the Pope, and the King had already exchanged the marriage ring with Gabrielle d'Estrées. The two lovers had retired to Fontainebleau towards the middle of Lent and employed their stay in finishing the preparations for their marriage. As the holy week drew near, the King saw that he could not remain with his mistress during the ceremonies without causing considerable scandal and so he decided to send her to Paris, happy that she would perform her devotions in public so "qu'elle se fit voir au peuple bonne catholique, qui ne la jugeait pas telle."

Although this separation was to be of short duration, Gabrielle d'Estrées did not look forward to it with any amount of pleasure and it appears that she had very dark misgivings as to the outcome of the trip. During the night preceding her departure her servant heard her groan and asked the cause of her chagrin, to which she replied "that an enchanter had threatened her relative to this last pregnancy and had predicted that a child would prevent her from attaining the end she desired." In point of fact the duchess was at this time six months' pregnant and was extremely upset by this condition.

In spite of her repugnance she started, accompanied by the King, who left her at Melun with de Montbazou and de la Varenne, who were not to lose sight of her during her entire absence. She arrived at Paris on Tuesday, April 6th, and, according to the express wishes of the King, she put up at the house of the Italian, Zamet. On Thursday after having dined with good appetite, she went to the Church of the little Saint Antoine. It was during this ceremony that she first felt the symptoms of the disease which was rapidly to kill her. The symptoms consisted of vertigo, dizziness and headache, sufficiently marked to oblige her to leave the church before the end of the ceremony and return to her lodgings. In order to refresh herself, she partook of a citron and a few minutes later was seized with a true attack character-

ized by suffocation, convulsions, loss of sight and mind, a kind of apoplexy, according to the accounts of some of the writers of the times. When she had regained consciousness after this first attack, the duchess insisted upon being removed from Zamet's house and wished to be taken at once to her aunt, Madame de Sourdis, where she arrived and immediately went to bed. She was again taken with attacks similar to the first and which increased both in frequency and in intensity. During the night of Thursday to Friday, that is to say, only a few hours after the commencement of the symptoms, the duchess had lost all reason and soon afterwards sight, hearing and all the other senses were abolished. Her face became hideous and frightful, the eyes deviated, the neck was the seat of contracture, the head being turned almost backwards, according to the expression of de la Varenne.

The physicians called in haste could apply no remedy which, in their estimation was necessary and proportionate to the violence of the affection, on account of the advanced state of pregnancy. They were also not able to come to any conclusion as to the nature of this very violent disease. The duchess died during the night of the 10th to the 11th of April without having regained consciousness. An autopsy which was thought necessary, was performed by the most celebrated physicians and surgeons of Paris, to which were added those of the King. The foetus was dead and all declared that its death had occurred at the commencement of the malady, but none of them said or wrote anything which would allow one to suppose that they had found traces of poison.

Such is, briefly narrated, the history of the end of Gabrielle d'Estrées. None of the physicians consulted spoke of poisoning, but those who were unable to understand the reason of a death so sudden and rapid were not long in attributing it to a crime and the word poison circulated from mouth to mouth. But who could be accused if it was not he at whose house the victim had taken her repasts before going to the church? Consequently, it was upon Zamet that the suspicion fell and since he apparently could have no interest in doing away with the duchess the suspicion was thrown on the Grand Duke of Tuscany, Ferdinand de Médecis, Zamet

then being only considered as his accomplice. M. de Sismondi has distinctly formulated this accusation as follows: "Déjà l'on négociait le mariage de Henri IV avec Marie de Médicis; la vie de Gabrielle était le grand obstacle à sa réussite, elle périt dans une maison italienne, et Ferdinand n'en était pas à son premier empoisonnement." Michelet in his "Histoire de France au XVI siècle," published at Paris in 1855, reproduces the charge in nearly the same terms, as may be seen from the following quotation. "Nul doute que le grand duc n'ait été le mieux informé. Il y avait intérêt. C'était l'homme de Gabrielle (Sully) qui avait écarté les Italiens de nos financés. C'était elle qui fermait le trône à sa nièce. Le prince n'en était pas à son premier assassinat. Encore moins l'empoisonnement, plus discret, lui répugnait il."

Now, in point of fact, Ferdinand de Médicis belonged to this family so sadly celebrated by its numerous crimes and the souvenir of crimes from poisoning and those of all kinds, along with treasons of various sorts committed by his two predecessors, were in the minds of everybody. For that matter the Grand Duke of Tuscany was no longer making any essays, because he had been accused of poisoning his brother François and the latter's wife, Bianca Capello. These suspicions appeared confirmed by their almost simultaneous and very sudden death, as well as the haste which Ferdinand de Médicis showed to leave aside his cardinal's robe in order to succeed his brother. On the other hand, Zamet was an Italian and it was well known that he was in close relation with the Grand Duke. Gabrielle d'Estrées had experienced the first symptoms of her disease after a dinner served at his house and the relationship between this repast and her death was too easy to be established for one to neglect it. The Duchess of Beaufort appears to have also had the same idea when, after the first attack, she expressed a formal desire to leave her lodgings. However, I believe with Loiseleur that her only desire in leaving was to be nearer the Louvre where the King would not fail to have her transported as soon as he was informed of her sickness. It was also said that at this epoch negotiations had been opened with the Grand Duke of Tuscany and that the latter was in hopes that they might terminate by a union between the King of France and Marie de Médicis, and it was the deception that the announcement

of the approaching marriage of Henri IV with Gabrielle d'Estrées had caused him that lighted the desire of vengeance in the mind of the Grand Duke Ferdinand de Médicis.

Now, in point of fact, it is difficult to admit the reality of these negotiations, because they could not have taken place before the 1st of May, 1598, the date of the treaty concluded by D'Ossat between the King and the Grand Duke, these two princes having been upon ill terms previously. Then, again, it could not have been after this epoch, because it was only during the latter months of this same year that Henri IV had decided to marry his mistress; and still more, how can it possibly be imagined that the King aspired to become united to the race of Catherine de Médicis, who had, as he said, done so much harm to France and to himself in particular. As may be seen the accusation brought up against the Grand Duke is faulty even at its basis, when the arguments upon which it is founded are carefully investigated.

Other historians have believed that the murder of the Duchess was due to one of the two great parties which at this time divided France, but these suspicions are quite as vain as the preceding ones. Those who belonged to the reform party were, for the greater part, openly allied to the marriage; those who were not very sympathetic in this respect certainly preferred to have as Queen the Duchess of Beaufort than an ardent Catholic like the niece of the Grand Duke. The Catholics were not any more interested in preventing this union, because they had received all the necessary guarantees relative to the political consequences that might result from it.

And lastly, suspicions were thrown upon a man, who, on several occasions had shown some animosity towards the Duchess, who took extreme care to prevent the fulfillment of all her desires, who also gave his wife the news of the Duchess' death in these words. "Vous n'irez pas au coucher, ni au lever de la Duchesse, car la corde est rompue." This man was Sully.

Those writers who are not afraid of doing injury to one of the greatest characters in history do not go so far as to uphold that he played an active part in the conspiracy, but they believe that he was aware of it and allowed it to be carried out. Such an accusation made against a man like

Sully does not seem to be necessary to discuss very lengthily, because it was he himself who left us the details of the death of the Duchess and the remarks which I have already alluded to, a thing which he would not have done had he been in any way guilty. Before accusing so great a character of such a crime, it is of all necessity to establish whether or not there was really any poisoning and if the death of the Duchess was not due to some natural cause.

Now, it has been pointed out that at the time Gabrielle d'Estrées started for Paris she was about six months' pregnant and that she was extremely miserable on account of this condition. If, in possession of this fact, we sum up the symptoms of her illness, which consisted in headache, vertigo, dizziness, suffocation, loss of sight and the other senses, unconsciousness and death in coma, it would appear to me that we have a picture of a pathologic condition which at the present time is well known. I refer to eclampsia. The entire illness of the Duchess is a true picture of this condition, showing its various stages and lastly the end in coma. The results of the autopsy are in no way hostile to this hypothesis, because the physicians found the foetus dead since the commencement of its mother's attack and it is well established that this condition of affairs is what is ordinarily found in serious cases of eclampsia, like that presented by Gabrielle d'Estrées. It is consequently to this opinion that one should adhere, and all question as to poisoning should be forever done away with, because it is absolutely without foundation.

Editorial

A hospital is a quiet place. Suppose one to go to a public ward, say the surgical ward, and there be the only patient during a large part of the four weeks' stay; he were likely to have his fill of lonely gazing on the white-coated walls, and white-spread cots, and white-shaded windows; of the fugitive persistence of iodoform; of straining the ear for a vanishing footfall on the rubber-deadened passage without, a nurse's motherly, girlish voice, a young house-surgeon's important tones, the soft swish of unstarched skirts, or any of the hushed hospital sounds which awaken out of the silence, at first muffling, everything.

Moreover, in such a case, too weak to read, too poor to buy privacy with its consequent allowance of company, seeing no visitors except on the bi-weekly visiting day, one might have a surfeit of leisure to think.

The Man of the Hour.

OCTAVE THANET.



In an address of characteristic attractiveness delivered to the graduating class of the Lakeside Hospital for Nurses, of Cleveland, Dr. Henry M. **The Endowment of Schools for Nurses** Hurd, of the Johns Hopkins Hospital, gives some reasons for the greater appreciation of the work of nurses and of schools for their instruction, and makes an appeal for endowment. At first thought one regards a school for nurses as an adjunct to a hospital, and it is to be feared that many whose interest has been awakened have had their attention more particularly directed to the service of the hospital than to ultimate effects.

Dr. Hurd begins his address most appropriately with a comparison, or, more properly speaking, a contrast, between manual training or handicraft and the liberal arts; and he uses the work of a nurse as the most emphatic demonstration of the value of mental training for the intelligent direction of the labor of the hands. If the university makes education a matter of thought without hands, and the technical school makes it a matter of hands without thought, a school for the education of nurses brings a happy co-ordination of both for the accomplishment of the greatest good. Coming from such a source, then, Dr. Hurd's

resolute attitude that there is no danger of an overeducated or overtrained nurse, will do much to turn aside a suspicion in many places of the danger of culture in this department of work. "Knowledge is power, and the fuller the knowledge and the better the training of a good nurse, the better her power."

Dr. Hurd brings into focus the influence of the nurse in the wider work outside the hospital: "She has been introduced into the public school with great advantage to the public welfare. She watches over the health of the pupils; she observes the hygienic condition of the school; she visits the home to know how the pupils live there and to give such instruction as will improve the conditions of living. In district nursing her services also require the highest grade of intelligence and training. She must become, to use Florence Nightingale's term, 'a missionary of health' to families of the poor, and must preach the gospel of hygienic living and healthful surroundings. Upon the tuberculosis nurse is placed the hardest part of the battle which is being waged against tuberculosis in every part of the country. She not only must look after the sick as a nurse but also is responsible for the hygienic care of the sick and the instruction of the family, so that tuberculosis may not be a source of danger to the community. She must equally instruct the family and supervise the home, so that other members of the family may not, through inadvertence or ignorance, acquire the dread disease. She must see that families live healthily; that too many are not crowded into an infected room; that rooms are properly disinfected after the death or removal of a tubercular patient, and must protect the whole community from the spread of tuberculosis disease."

From this standpoint it is easily seen how great the value to the community is the work of the properly trained nurse, how much may be lost by the absence of trained nurses, and how much harm may be done by inadequately trained nurses, those who have thrust themselves into this occupation after observation of two or three cases of sickness, or those who have been thrust upon the public after an alleged course of training, consisting of a few didactic lectures and a few manipulations. Dr. Hurd appeals strongly to the sentiment which should encourage nurses, and he believes that each nurse is a center of good works,—an exponent of the law of mutual aid and of personal service in the hospital, as a district nurse, as a tuberculosis nurse in the public

schools, in the social settlements, in the army and navy, in the Red Cross, in the home of the poor or the palace of the rich. "Everywhere her presence makes for comfort in sickness, for the minimization of the loss to the community and the State which disease, suffering and death entail; for the prevention of disease and for the social uplift which is the hope of the nation with its conglomerate population and racial diversities and animosities. More surely than education alone, more strongly than the ties of religion, more firmly than self-interest and commercialism, this form of service will bind society together and assist each class in the effort to lighten the burdens of the other."

And if all this cannot be had without endowment of the schools for nurses, there should be no delay in providing the endowment.

All power to the head and the hand of the trained nurse!

Little Biographies

VIII. JACOBUS SYLVIUS.

JACQUES DUBOIS was one of the earliest anatomists of the French school to gain distinction, a distinction to which his researches do not seem to entitle him. He was the son of Nicholas Dubois (De lo Bo), a cambric weaver who had eleven sons and four daughters. He was born in Amiens in Picardy, in 1478. According to the custom of his day he assumed the Romanized name of Jacobus Sylvius.

At the instance of his brother Franciscus, who was professor of eloquence in the College of Tournay, at Paris, he devoted himself to the study of the languages and mathematics. Discovering, however, that these elegant accomplishments do not invariably reward their cultivators with the goods of fortune, Sylvius forsook them for the study of medicine. Thus it is said, that for the name of Sylvius the history of anatomy is indebted to his inordinate love of money. His early knowledge of this subject he acquired from the writings of Galen, of whom we are told he was an indiscriminate and irrational admirer and whose anatomical and physiological teachings he interpreted in preference to giving demonstrations from the subject. His reputation as a teacher soon spread and students came to him from all parts of Europe. He at this time, however, met with great opposition from the physicians of Paris, who were extremely displeased that

a man who had no where taken a degree in physic should presume to teach science in the metropolis of the kingdom. These murmurs induced him to go to Montpellier in 1520, at the age of 42, to take his degree. He returned once without it, his avarice not permitting him to be at the necessary expense. Later his course was resumed and he was admitted bachelor of physic in June, 1531, then 53 years of age.

Upon his return to Paris he again took up his work in anatomical instruction and here taught anatomy to large audiences in the College of Trinquet. On the departure of Vidus Vidius for Italy in 1548, the professorship of physic in the Royal College becoming vacant, Sylvius was chosen to fill it, which he did after hesitating two years. This position he retained until the time of his death, which occurred in 1555, at the age of 72.

We are assured by Vesalius, who was at one time his pupil, that Sylvius' manner of teaching was calculated neither to advance the science of medicine nor to rectify the mistakes of his predecessors. Without talent for original research or discovery himself, his envy and jealousy made him detest everyone who gave proofs of either. A human body was never seen in the theatre of Sylvius; the carcasses of dogs and other animals were the materials from which he taught and so difficult was it to obtain human bones that unless Vesalius and his fellow students had collected assiduously from the Innocents and other cemeteries they would have committed numerous errors in acquiring the first principles. This assertion, however, is contradicted by Riolan, and afterwards by Sprengel and Lauth, the last of whom decidedly censures Vesalius for this ungrateful treatment of his instructor.

Sylvius was never married, and he showed even an aversion to women. His behavior was rude and barbarous. He seldom jested or departed from his gravity and when he was inclined to become more sociable, he did so awkwardly. The only merry saying attributed to him is that "he had parted with three beasts, his cat, his mule and his maid." His avarice was extreme and he lived in the most sordid manner; he allowed his servants nothing but dry bread and had no fire in winter. Two things served him as a remedy against cold; he played foot ball and carried a great log upon his shoulders, saying that the heat which he gained by this exercise was more beneficial to his health than that of a fire. In short, his passion for money obscured the lustre of his better qualities.

His most important work, which was not published till 1630, seventy-five years after his death, appears to have been his "Opera Medica" in which is found a description of the fissure and aqueduct of the brain which bear his name. Though his mention of injections had led some to suppose him the discoverer of that art, he appears to have made no substantial addition to the information already acquired. The first acknowledged professor of anatomy at the University of Paris appears then in history as one who lived without true honor and died without just celebrity.

GEORGE E. BEILBY.

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Scientific Review

THE TREATMENT OF EXOPHTHALMIC GOITRE WITHOUT REFERENCE TO SURGICAL INTERVENTION.

Since Caleb H. Parry¹, in 1786, described exophthalmic goitre great improvement has been made in the treatment of this distressing disease, especially in the last few years. We know that in this disease there are constant pathologic changes in the thyroid gland. We know the nature of these changes, but of the etiology we have no definite knowledge. Accordingly, no rational remedy has been found and the treatment has not been, and is not now, entirely satisfactory.

Tyson² regards the disease as due to a cysto-toxin which arises from deranged secretion or overactivity of the thyroid gland, and which produces the symptoms. He says that experience with analogous diseases would lead us to believe that an anti-toxin may yet be found.

Many drugs have been tried and retried with indifferent results. Iron and iodine have had the lead but are now relegated to the past. Shattuck³ states that his main reliance in treating Graves' disease is neutral bromid of quinine in five-grain doses, three or four times daily. Other men have reported good results from the bromides, in doses varying from fifteen to sixty grains, four times daily; they are considered useful for nervous patients. Digitalis and strophanthus in doses of ten to fifteen grains are

useful as they relieve tachycardia as a rule; if not, they should be stopped, as larger doses exhaust the heart muscle. Tincture of belladonna, ten minims three times daily, will also often relieve tachycardia. Opium has also been recommended and should be considered. It quiets irritability but is not always well borne; it constipates, a bad feature, and as the elimination of the toxin is increased in diarrhoea caution should be observed in checking the movements of the bowels. Codeine would be preferable to morphine.

Jousemet⁴ speaks well of the long continued administration of sodium salicylate, one drachm, three times daily. Arsenic has been recommended.

William H. Thompson⁵ of New York attributes exophthalmic goitre to gastro-intestinal ptomaine poisoning, and places his patients on a rigid milk diet for two years. He believes that the ptomaines are gradually eliminated and that the milk diet prevents their formation. On the other hand, it seems that if the disease be due to a toxin, the toxin is formed in the thyroid gland itself; this is indicated by the relief experienced after operative treatment.

Although the use of electricity has proved to be disappointing in this country and in England, the German observers laud it as a remedy. They claim that the constant galvanic current with the negative pole over the fifth cervical vertebra and the constant pole over the sternum, will greatly ameliorate and often remove entirely the distressing combination of symptoms found in this disease. In "Le Nord Medicafe", September, 1905, E. Doumer and D. Maes⁶ reported a case in which the use of the faradic current according to Vibouroux's method had cleared up all the symptoms in a very short time. After three treatments the patient considered himself cured, as all the symptoms had disappeared. George R. Murray⁷ regards the use of the faradic current in connection with small doses of arsenic as the most valuable method of treating Graves' disease.

Dr. Baetjer⁸ has been using the X-ray in this disease and in two cases has had apparently good results; the hypertrophy of the thyroid disappeared and the general health improved greatly. Charles H. Mayo has had good results but claims no permanent cure.

In the past few years there has been great activity in the treatment of diseases of the thyroid gland by organo-therapy. At

first thyroid extract was used. Theoretically it makes the disease worse and the evidence has confirmed that theory. Thymus, suprarenal and ovarian extracts have been used, and have been followed in some cases by rapid improvement. An anti-thyroid serum in the form of rodagin, a powder prepared from the milk of goats after thyroidectomy was presented to the profession by Moebius in 1901. This has given good results, reducing the gland in size, and improving the bodily and mental health. However, if the treatment is discontinued, relapse is certain. Christens and Thienger⁹ speak favorably of serum prepared from the blood of thyroidectomized goats. Rogers with Beebe¹⁰ published in January, 1906, communications regarding a new anti-toxin. This is prepared from the blood serum of rabbits which have been injected with an extract derived from diseased thyroids. Dr. William G. Thompson¹¹, in the April number of the *New York State Medical Journal* says: "They have produced a serum which by the promptness and completeness of its effects in Graves' disease leaves no further room for doubt as to the specifically toxic nature of the acute exacerbations and the cause of the frequent heretofore fatal terminations."

Whatever special method of treatment is adopted, the vital resistance should be sustained in every way possible. The excretory organs should be assisted in their work of discharging the toxins that produce the symptoms. The environment of the patient should be cheerful, pleasant and quiet. The writer has seen a case greatly improved by such measures alone. All excitement, worry and fatigue should be carefully avoided. Stimulating food and alcoholic drinks should not be permitted. Sexual indulgence and pregnancy should be discouraged, and outdoor life insisted upon no matter what method of treatment is followed, be it medicinal, electrical or organo-therapeutic.

D. V. O'LEARY, JR.

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- 4 *International Clinics*, sixteenth series, vol. 1, p. 210.
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- 8 *International Clinics*, sixteenth series, vol. 1, p. 279.
- 9 *International Clinics*, sixteenth series, vol. 1, p. 210.
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Medical News

Edited by Arthur J. Bedell, M. D.

THE ALBANY GUILD FOR THE CARE OF THE SICK.—Statistics for June, 1906: Number of new cases 94, classified as follows: Dispensary patients receiving home care, 1; district cases reported by health physicians, 7; charity cases reported by other physicians, 42; patients of limited means, 44; old cases still under treatment, 54; total number of patients under nursing care during the month, 148; classification of diseases (new cases) medical, 28; surgical, 8; gynecological, 5; obstetrical work of the Guild, 26; mother and 25 infants under professional care; dental, 2; number of contagious diseases in medical list, 1; transferred to hospitals, 3; deaths, 3.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 1; attending obstetricians, 1; medical students in attendance, 3; Guild nurses in attendance, 1; cases, 1; number of visits by attending obstetricians, 1; by the medical students, 10; by the Guild nurses, 9; total number of visits for this department, 20.

Visits of Guild Nurse (all departments)—Number of visits with nursing treatment, 1,032; for professional supervision of convalescents, 193; total number of visits, 1,225. Five graduate nurses and five assistant nurses were on duty. Cases were reported to the Guild by four of the health physicians and by 25 other physicians and by 1 dentist.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.—The newly elected Board of Censors met for organization at the office of Dr. A. Vander Veer, July 9. The following members were present: Dr. F. C. Curtis, Dr. H. E. Mereness, Dr. S. B. Ward, Dr. A. Vander Veer and Dr. G. G. Lempe, President of the Society. Dr. Ward was elected Chairman and Dr. Curtis, Secretary.

THE AMERICAN ROENTGEN RAY SOCIETY.—The Seventh Annual Meeting of the American Roentgen Ray Society will be held August 29, 30, 31, 1906, at the Cataract and International Hotels, Niagara Falls, N. Y. A large and interesting program containing the names of the best known X-ray workers in this country as well as a number from abroad, has been prepared. An interesting feature of the meeting will be the exhibit of prints and negatives. The railroads have granted a rate of a-fare-and-a-third on the certificate plan.

The officers of the society are: President, Dr. Henry Hulst, Grand Rapids, Mich.; Secretary, Dr. Geo. C. Johnston, Pittsburg, Pa.; Treasurer, Dr. Leavitt E. Custer, Dayton, Ohio; Vice-Presidents, Dr. Russell H. Boggs, Pittsburg, Pa.; Dr. Clarence E. Skinner, New Haven, Conn.; Dr. Ennion G. Williams, Richmond, Va.; Dr. Eugene W. Caldwell, New York, N. Y.

Full information regarding the meeting and application blanks for mem-

bership may be obtained by addressing the Secretary, Dr. Geo. C. Johnston, 611 Fulton Bldg., Pittsburg, Pa.

GREATEST OF DENTAL CONVENTIONS—Arrangements are being made for holding the world's greatest Dental Convention at the Jamestown Exposition, Norfolk, Virginia, next year. Not only will the various State Dental Conventions be held here but some of the European countries will be represented at this National Dental Congress. Among the celebrities to be in attendance is Prof. W. D. Miller, the greatest dental scientist in Europe, if not the greatest in the world, who will deliver an address before the congress. Dr. Burton Lee Thorpe, of St. Louis, is chairman of the Jamestown Dental Convention. The other officers and committee are: Dr. R. H. Walker, of Norfolk, Va., Dr. H. Wood Campbell, of Suffolk, Va, Dr. Thos. P. Hinman, of Atlanta, Ga., Dr. F. W. Stiff, of Richmond, Va.

Among the organizations to participate in this mammoth convention are the National Dental Association, the Southern Branch of the National Dental Association, the Virginia State Dental Association, the Missouri State Dental Association, the Alabama Dental Association, the Tennessee Dental Association and other state dental associations.

The Jamestown Dental Convention will be held in the Hall of Congress or Auditorium at the Jamestown Exposition in 1907 and a series of clinics conducted by world famed experts at the same time will be given. Preparations will be made to royally entertain the hundreds of dentists who are coming to this convention, both at Norfolk, where the Exposition is to be held, and at the other points of historic interest in this locality.

TREASURY DEPARTMENT.—BUREAU OF PUBLIC HEALTH AND MARINE HOSPITAL SERVICE.—A board of officers will be convened to meet at the Bureau of Public Health and Marine Hospital Service, 3 B Street, S. E., Washington, D. C., Monday, August 6, 1906, at 10 o'clock a. m., for the purpose of examining candidates for admission to the grade of assistant surgeon in the Public Health and Marine Hospital service.

Candidates must be between twenty-two and thirty years of age, graduates of a reputable medical college, and must furnish testimonials from responsible persons as to their professional and moral character.

The following is the usual order of the examinations: 1, Physical. 2, Oral. 3, Written. 4, Clinical.

In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate.

The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists in examination on the various branches of medicine, surgery and hygiene.

The oral examination includes subjects of preliminary education, history, literature, and natural sciences.

The clinical examination is conducted at a hospital, and when practicable, candidates are required to perform surgical operations on a cadaver.

Successful candidates will be numbered according to their attainments

on examination and will be commissioned in the same order as vacancies occur.

Upon appointment the young officers are, as a rule, first assigned to duty at one of the large hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco.

After five years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon.

Promotion to the grade of surgeon is made according to seniority, and after due examination as vacancies occur in that grade.

Assistant surgeons receive sixteen hundred dollars; passed assistant surgeons, two thousand dollars, and surgeons, twenty-five hundred dollars a year. When quarters are not provided commutation at the rate of thirty, forty, and fifty dollars a month, according to grade, is allowed.

All grades above that of assistant surgeon receive longevity pay, ten per centum in addition to the regular salary for every five years' service up to forty per centum after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses.

For further information, or for invitation to appear before the board of examiners, address The Surgeon-General Public Health and Marine Hospital Service, Washington, D. C.

PERSONAL.—DR. GEORGE B. STANWIX (A. M. C., 1898), announces his removal from Binghamton, to 1170 Dean Street, Brooklyn, N. Y., where he will continue to devote his practice to diseases of the nose, throat and are exclusively.

DR. ALVAH H. TRAVER (A. M. C., 1898), is visiting at St. Mary's Hospital, Rochester, Minn.

DR. RANSOM S. MOSCRIP, (A. M. C., 1899,) is in practice at Grand Gorge, Delaware County, N. Y.

DR. FREDERICK E. BOLT (A. M. C., 1903), is at East Meredith, N. Y., and is health officer of the town of Meredith.

DR. FRANK J. HURLEY (A. M. C., 1905), has completed his term of service at St. Peter's Hospital, Albany, and has located at Bennington, Vt.

DEATH.—DR. JOHN C. O'HAIRE (A. M. C., 1891), died at his mother's home in Watervliet, N. Y., June 16, 1906.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

The Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of GUSTAVUS P. HEAD, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. *Volume II. General Surgery.* Edited by JOHN B. MURPHY, A. M., M. D., LL. D., Professor of Surgery in Rush Medical College (in affiliation with the University of Chicago). Series 1906. The Year Book Publishers, Chicago, 40 Dearborn St.

The advancement of the medical sciences is so rapid and the medical literary output is becoming so vast that it is not within the bounds of possibility for a general practitioner of medicine, unaided, to keep abreast of the times. The specialist can only with difficulty keep up with the recent literature on this particular specialty. F. S. Dennis, in an address on the history and development of surgery, calls attention to the fact that American writers alone are publishing annually 500 medical volumes to say nothing of nearly 10,000 journal articles each year.

Within recent years attempts have been made to bring together the important medical advances of the year into some form of year book. The value of having this knowledge in a compact form for ready reference is obvious to both the general practitioner and the specialist.

The present volume is one of a series of ten issued at about monthly intervals and covering the entire field of medicine and surgery. The subject of this volume is "General Surgery" and is edited by J. B. Murphy of Chicago.

To abstract the book carefully would be to reproduce it. The author has abstracted articles extensively from acknowledged authorities dealing with general subjects, remarkable cases, etc. Articles on new lines of treatment, such as Bier's treatment of tubercular arthritis by chronic passive congestion are reviewed. Considerable space is devoted to the subject of anesthesia. The ideal anesthetic has not yet been attained. Writing of scopolamin-morphin the author says: "It seems to us that the method is not justifiable except under extraordinary circumstances and its general use should be discouraged for the present."

A summary of the work of the year shows that abdominal surgery of all kinds has made marked advances. The newer methods of careful urine examinations have led to beneficial conservatism in kidney surgery and the statistics of the newer methods of the treatment of peritonitis show remarkable life saving results.

The author abstracts voluminously from his own writings and frequently enhances the value of the work by editorial comments.

The pendulum of surgical judgment swings back and forth. In the introduction to the book the author calls attention to some of the tendencies of the times. "Conservation of organs and tissues is rapidly supplanting the pan-operations of the past decade. Surgeons are becoming more ex-

acting in their demands for better functional results and more uniform lines of practice." Again, "The laity, physicians and surgeons are learning to value the life-conserving significance of timely operations which have robbed appendicitis of its mortal septic peritonitis, have anticipated the fatal sepsis jaundice of cholelithiasis and are exerting an enormous preventive influence against cancer of the stomach by curing the gastric ulcer, its most potent and frequent cause, and relieving the etiologic pre-cancerous gastric stasis."

The Practical Medicine Series, comprising ten volumes on the year's progress in medicine and surgery, under the general editorial charge of GUSTAVUS P. HEAD, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. *Volume I, General Medicine*. Edited by FRANK BILLINGS, M. S., M. D., head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. SALISBURY, A. M., M. D., Professor of Medicine, Chicago Clinical School. Series 1906. The Year Book Publishers, 40 Dearborn St., Chicago, Cloth. Octavo. \$1.25 (Series of ten volumes, \$10.00.)

This volume is one of an annual series which is intended to cover the entire field of medicine and surgery. If each volume is as complete as the one before us, the editor's intentions are fulfilled. The abstracts upon the various affections are classified according to the system of the body which is involved. Of the entire 360 pages, the section upon the diseases of the respiratory system occupies half of the space, and of this half, tuberculosis covers about 110 pages. The year's literature is well reviewed and several plates illustrate types of cottages, etc. Diseases of the circulatory system and of the blood occupy about ninety pages. The remaining quarter of the volume is given over to general infectious diseases, diseases of metabolism and of the ductless glands, rheumatoid diseases and diseases of the kidneys.

The abstracts of the articles are as a rule well written and the book is very useful as a convenient summary of the year's literature in general medicine.

C. K. W., JR.

A Text-Book of the Practice of Medicine. By JAMES ANDERS, M. D., Ph. D., LL.D., Professor of Medicine and Clinical Medicine at the Medico-Chirurgical College; Physician to the Medico-Chirurgical Hospital; Formerly Physician to the Philadelphia and to the Protestant Episcopal Hospitals, Philadelphia; Fellow of the College of Physicians; Member of the Academy of Natural Sciences, Philadelphia, Etc. Illustrated. Seventh Edition. Thoroughly Revised. Philadelphia and London. W. B. Saunders & Company, 1905.

So well known and so deservedly popular is Anders' text-book that a lengthy review of this seventh edition is not necessary; in fact it is almost

enough to say that it fully comes up to the standard set by other editions. However, a few points of excellence and several changes must be noted.

Differential Diagnosis is one of the most prominent features, separate headings being used and many diagnostic tables given. The greatest number of changes in the text are in the Treatment of Diseases in order to keep the work up to the great advances made in that direction and the rewriting of the sections on beriberi, paratyphoid fever and trypanosomiasis. The new subjects introduced are Rocky Mountain spotted fever; examination of patients for the diagnosis of diseases of the stomach, splachnoptosis; Camidge's tests for glycerose in the urine; myasthenia gravis, pseudotuberculosis, benign cirrhosis of the stomach; intestinal lithiasis; intestinal calculi; red light in variola, emulsion albuminuria; sequelæ of valvular lesions and Adams-Stokes' syndrome. This text-book is recommended at the Albany Medical College.

SPENCER L. DAWES.

Bovée's Gynecology. The Practice of Gynecology by Eminent Authorities, Edited by J. WESLEY BOVÉE, M. D., Professor of Gynecology in George Washington University, Washington, D. C. In one very handsome octavo volume, containing 838 pages, with 382 engravings and 60 full page plates in colors and monochrome. Cloth, \$6.00 net; leather, \$7.00 net; half morocco, \$8.00 net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1906.

This work is the first of three companion volumes dealing respectively with Gynecology, Obstetrics and Pediatrics and is offered to the profession as a practical treatise on the diseases of the generative organs of women and on those of the neighboring organs, the urinary system and rectum. The work has been prepared by seven contributors.

J. Wesley Bovée has written the chapters on the Developmental Anomalies of the Female Generative Organs, Sterility, Diseases of the Rectum, Anus and the Urinary Tract; J. Riddle Goffe, Menstruation, Displacements of the Uterus, The Vaginal Method of Operating and the After-Treatment and Complications of Abdominal Operations; G. Brown Miller, Uterine Conditions; George H. Noble, Fistulæ, Lacerations of the Perineum and Diseases of the Vulva and Vagina; Benjamin R. Schenck, Diseases of the Tubes and Ovaries Exclusive of Infections and Tubal Pregnancy; Thomas J. Watkins, Infections of the Tubes and Ovaries; X. O. Werder, The Examination of Pelvic Contents, The Technique of Abdominal Operations and Extrauterine Pregnancy.

Pathology and bacteriology have been chosen as the chief guides in the classifications of diseases. The classification of endometritis by Miller on this basis seems most rational. He regards only those cases which show actual inflammation, as endometritis, and does not apply the term loosely to the hypertrophies and other changes in the endometrium due to misplacements, pelvic tumors, etc. As bacteria are the cause of uterine inflammation in the vast majority of the instances, he considers endometritis and metritis as some stage of infection, either acute or chronic. He therefore

classifies them according to the various agents infecting the genital tract: (1) gonorrhoeal, (2) those conditions caused by pyogenic or saprophytic bacteria (essentially a wound infection) and (3) tuberculosis.

The illustrations are mostly original but the editor has not hesitated to use those from other sources when it appeared that no improvement could be made, many having been chosen from Dudley's Gynecology.

The feature which particularly recommends the book is that it presents the latest ideas in each branch of the subject as exhaustively as is consistent with the scope of the work, by one especially interested in that branch.

J. A. S.

Reference Handbook of the Diseases of Children. By Prof. Dr. FERDINAND FRÜHWALD, Chief of Clinic in the Vienna Polyclinic. Edited with additions by THOMPSON S. WESTCOTT, M. D., Associate in Diseases of Children in the University of Pennsylvania. With 176 illustrations. W. B. Saunders and Company, Philadelphia and London, 1906.

This excellent work is a close translation of the "Kompodium der Kinderkrankheiten" of Prof. Dr. Frühwald a work which has already achieved marked success abroad. The different subjects are classified alphabetically, which, though a novel arrangement and one not to be entirely commended from some standpoints, renders a general index unnecessary, especially as the cross references are numerous.

The subjects are treated briefly, but the principal points are well emphasized and details are given in proportion to the importance of the disease or condition in question. Especial stress is laid upon diagnosis, and the paragraphs upon the therapeutic and diatetic management of the different conditions are as comprehensive as possible. Some of the remedies suggested are however so purely German that they are not available for many practitioners in this country.

The illustrations are on the whole excellent, and are for the most part taken from photographs or sketches from nature. A few illustrations have been added to this edition from accredited American sources, but the large majority of them are from the original German edition.

This book ought to prove most useful to the student and practitioner as a convenient clinical guide, and though the author does not intend to have it take the place of larger text-books, it might well be substituted for some.

C. W. K., JR.

Food and Diet in Health and Disease. By ROBERT F. WILLIAMS, M. A., M. D., Professor of the Practice of Medicine in the Medical College of Virginia. Lea Brothers & Co., Philadelphia and New York, 1906.

This manual of about four hundred pages furnishes a fairly complete and very convenient practical guide for modifying the diet. Part I, "Food in Health," includes a discussion of the chemistry of foods, a brief consideration of the processes of digestion, and the changes brought about by cooking, and a detailed discussion of the individual foods grouped according to the predominating alimentary substance, proteid foods, carbohydrates

and fats being taken up separately. This part of the work is largely based upon the results of investigations in the Experiment Station of the United States Department of Agriculture and contains a considerable number of authoritative tables. Part I also contains chapters on beverages, food in infancy, and certain general hygienic principles regarding the regulation of diet in health.

In Part II, "Food in Disease," there is a preliminary chapter in which methods of preparing and serving food for the sick are described and the relation of medicines to foods, especially as regards time of administration, is discussed. In the succeeding chapters details of management of the diet in various diseases are considered. In the last chapter a number of diet lists and recipes in use at the Memorial Hospital in Richmond, Va., are given.

While Dr. Williams' book does not contain a great deal that is new or original he has succeeded in "presenting concisely the principles, at present known, upon which rests the intelligent use of food in health and in disease."

A. T. L.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, etc. Edited by A. O. J. KELLY, M. D., Philadelphia, Pa. Volume I, Sixteenth Series, 1906.

The volume contains the usual number of original essays and instructive clinical lectures. The article upon "The Causation and Treatment of Eclampsia, with special reference to the methods of accomplishing rapid Delivery of the Fetus" by Joseph B. De Lee, is worthy of special mention as it deals very completely with a subject of vital import. The six plates illustrating the text add much to its value.

Progress of medicine during 1905 occupies a large part of the volume. It is divided into three sections, namely: Treatment, medicine and surgery. Abdominal Surgery and Surgery of the Stomach appear to be the fields in which the greatest progress has been made during the past year, for which the Mayo brothers are largely responsible.

H. D. C.

A Pocket Formulary. By E. QUINN THORNTON, M. D., Assistant Professor of Materia Medica in the Jefferson Medical College, Philadelphia. New (Seventh) Edition, Revised. Lea Brothers & Co., Philadelphia and New York.

As its name indicates, this little book consists in the main of formulæ for the treatment of about all the ills that flesh is heir to, prescriptions both ancient and modern; good, bad, and indifferent. It also contains tables of weights and measures, comparisons of the Apothecaries and Metric Systems, Incompatibles, Poisons and Antidotes and a table of doses in accordance with the new United States Pharmacopœia. All doses are given in both the Metric and Apothecaries Systems.

SPENCER L. DAWES.

MEDICINE

Edited by Samuel B. Ward, M. D., and Hermon C. Gordinier, M. D.

Palpation of the Bronchial Lymph Glands by Means of Sounds in Cases of Mild Tubercular Infection. (Über Sonden-palpation der Bronchialdrüsen bei leichtesten Formen der Tuberkulose.)

ERNST NEISSER. *Deutsches Archiv für klinische Medizin*, 1905, LXXXVI, 28.

As the work of Nageli, Franz and others has shown, there are many persons whose bodies at autopsy show evidences of tuberculosis who never in their lives have shown any symptoms of the disease and other living persons who react positively to tuberculin without showing any other signs of the infection. The author has previously reported a series of cases reacting positively to tuberculin without having demonstrable lesions in the lungs. These people underwent no course of treatment and yet were apparently still perfectly healthy two years after the test. He has now observed thirty-four additional cases giving positive reactions and remaining healthy for a period of from one to three years without treatment. He has made a special study of these cases in order to determine if possible, the location of the tubercular infection and to discover clinical symptoms which might be of use in doing this. There was present in nearly all of this series of patients a number of subjective symptoms which had awakened the suspicion of incipient tuberculosis and had led to the use of the tuberculin reaction. They were mostly young people, workmen and servants, who lived in more or less unhealthy environment, their appearance rather weak, their type of build often suspicious. The face pale, hemaglobin generally low. There were however practically no other objective signs of disease. In marked contrast were their subjective symptoms, nearly all of them complained of pains in the back and breast and of stitches between the shoulders, of slight, dry cough, of weakness, and of occasional night sweats.

Almost all of them were strong enough to work and would have continued their customary occupations had not suspicion of the presence of incipient tuberculosis led them to come to the hospital.

The most constant and most typical symptom of almost all the cases was the characteristic pain: Pain in the back, pain in the breast, and the stabbing pain or stitch between the shoulders. This was often especially well brought out when pressure was made with one hand between the shoulders and with the other on the sternum.

The question arises, what organ in the chest can be the origin of this pain which is not one-sided, but is either in the median line or distributed symmetrically over the entire chest. It is a natural supposition that swollen bronchial lymph glands may be responsible for it. By swollen glands the author does not mean the large caseous lymph glands, such as are found sometimes in children. The mildness of the symptoms and the favorable progress of the cases is against such a supposition. He means rather an acute inflammatory swelling, in reaction to the infectious process. To dem-

onstrate such a swollen condition of the bronchial glands there has been up to the present time no practical method. One method, too little used, to be sure, has been available, namely, the testing of spinal tenderness. The author uses this method but has devised besides a more direct means for testing tenderness of the bronchial lymph glands. He makes the test by direct pressure on the glands through the walls of the esophagus. One group of the bronchial lymph glands which lie under the angle between the main bronchi just below the bifurcation of the trachea are directly accessible to palpation through the esophagus. The author employs for this purpose an ordinary, soft, hollow esophageal sound, over the end of which he has drawn a soft rubber finger cot or shield. There is an opening on the side of the sound near the end and the glove finger is tied down tightly above and below this opening, but left loose over it. The other end of the sound is connected with an ear syringe. If one forces some air into the sound by means of the syringe there appears around the opening near the end a soft rubber ring filled with air the size of which can be readily regulated. When the sound is introduced into the esophagus of a cadaver with the ring in a collapsed condition, the heart and pericardium having been previously removed, it will be seen that the air-filled ring when about twenty-five centimetres from the teeth, presses upon the group of bronchial lymph glands previously mentioned, through the esophageal wall. Such a simple instrument as this suffices as the author thinks, to distinguish between healthy and painfully swollen bronchial glands. Possibilities of error are overstretching of the esophagus, slight tenderness of the esophagus itself, and pressure on the left vagus nerve. To entirely exclude these he devises a modified sound in which the pressure is exerted only in one direction, and not on all sides. This however, he does not consider as satisfactory as the simple form.

In using the sound certain precautions are necessary. It is important that the test be made some hours after a meal, as vomiting renders it difficult to apply. Moreover, the inflation should not be made suddenly as sometimes a spasmodic contraction of the esophagus can follow which causes some pain. The sound should not be inflated to its fullest extent and then slowly withdrawn, but the pressure should vary, just as it would if it were exerted by a palpating finger. The patient should be questioned as to whether the pain elicited is the same as that of which he has complained. The pain is sometimes felt more in the front of the chest, sometimes in the back between the shoulders. With nervous patients, young people, especially young women, the investigation will often give no satisfactory results. On the other hand, very frequently, convincing data are obtained. In the course of a year the author had the opportunity of making control tests on a great many non-tuberculous people, including surgical patients and healthy persons, such as doctors and nurses, in all about two hundred and fifty people. In all of them there was a complete absence of tenderness. In the majority of the cases which he reports in this article the sound test was positive, that is, tenderness of the characteristic sort was elicited with very little pressure. In a great majority also, of these cases, there was spinal tenderness.

The author thinks that this sign, together with the pains in the chest, the spinal tenderness, the positive tuberculin reaction when accompanied by negative physical signs referable to the lungs, and by the continuance of good health are evidence of a localized tuberculosis in the bronchial lymph glands. He does not, however, call such a condition incipient phthisis, as he believes the majority of cases showing these symptoms become entirely well again. He has found the gland tenderness to be absent in many of the cases of *advanced* phthisis which he has tested.

Unusual Dilatation of the Heart with Suspended Functions of the Auricles (Ungewöhnliche Dilatation des Herzens und Ausfall der Vorhofsfunktion.)

G. MULLER. *Zeitschrift für klinische Medicin*. Band. 56. heft 5 and 6.

The patient was a man aged twenty-nine years at death. His condition in January, 1905, was as follows: Well nourished, slightly cyanosed, some dyspnoea, no oedema. The heart dulness extended three finger breadths to the right of the sternum and began above at the third rib. The apex beat was in the sixth interspace; it was diffuse and a finger breadth outside of the mammillary line. Auscultation disclosed at the apex, a loud systolic and presystolic murmur. The aortic second sound was sharply accentuated, the pulmonic slightly accentuated. Lungs were normal. Abdomen negative. Liver two finger breadths below the costal margin. In 1902 the apex beat reached the anterior axillary line. The dulness above reached the second intercostal space. To the left of the sternum a well defined diastolic shock existed. There was systolic pulsation of the veins of the neck. The presystolic murmur was absent but in its place a clear diastolic murmur was present. The heart's action was regular. One week before death the following changes were detected. In the region of the left lung a dulness was disclosed which passed forward and was continuous with the heart's dulness. The dulness extended upward from the angle of the scapula, and forward to the first and second ribs. From the second rib the dulness extended in a slightly curved direction to the anterior axillary line where in the seventh interspace at the posterior axillary line the diffuse apex beat was located. Over this entire dull area a systolic thrill could be palpated. A loud systolic and diastolic murmur was heard. The heart occupied the complete circumference of the thorax with the exception of the parts from the left posterior axillary line to the spine.

The pulse was regular and eighty per minute. The spleen was negative. The urine normal. There was no ascites. Three weeks prior to death ruptured compensation with all its manifestations ensued.

Autopsy.—From the third rib downwards the thorax was occupied by the heart. Under the manubrium the lungs were seven centimeters apart. The heart was twenty-eight centimeters at its widest part. The heart measured full of blood twenty-nine centimeters in width by twenty-eight centimeters in height; auricles together measured twenty centimeters in diameter. Both auricles greatly distended. The right, size of the closed

fist, the left, size of child's head. Their walls were very thin. The mitral valve was stenosed. The right ventricle was distended, and its wall was five millimeters thick. The left ventricle appeared normal, walls nine millimeters thick. The aorta and left coronary arteries were sclerosed. Atheromatous ulcer found in the left auricle. The microscopic study of the heart showed general fibroid myocarditis. The left auricle was a mere bag, absolutely devoid of muscle fibres. The right was in about the same condition.

The interesting features of this almost unique case as cited by the author are the following: 1. The enormous dilatation of the left auricle. 2. The normal size of the left ventricle. 3. Dilatation of the right heart. 4. The general fibroid myocarditis. 5. The absence of arrhythmia. 6. The full and regular pulse. 7. The entire absence of muscular fibre cells in the auricles.

The fibroid myocarditis he explains by the coronary artery sclerosis. The author states that it is very remarkable that a heart which could contain about one-half of the entire blood of the economy should have been able to have carried on the circulation almost undisturbed for so many years. From a study of this case the author has brought forth the following points: 1. That the left auricle and atrium and probably the right took no part in the exciting in this case of the rhythmic contraction of the ventricles. He believes this case proves that the ventricles are capable of independent rhythmic contractions, whether of neural or muscular origin he does not say. 2. The circulation through the crippled left auricle he explains first by a *vis à tergo* excited by the aspiratory force of the lungs coupled by the right ventricle hypertrophy favoring the pulmonic circulation. Chiefly, however, by the suction excited by the diastol of the left ventricle. This he states is a very important compensatory means of assisting the circulation in mitral stenosis. The author leaves unexplained the almost complete absence of arrhythmia together with the full regular pulse both of which symptoms are so uncommonly present in mitral stenosis and myocarditis.

As to the Cause of Haemophilia. (Ueber das Wesen der Hämophilie.)

H. SAHLI. *Zeitschrift für klinische Medizin, Band 56, Heft 2-4.*

The author reports four characteristic cases of haemophilia which he has attended together with a review of the various opinions relative to the causation of this strange anomaly.

The author's cases were all typical. They suffered from repeated almost uncontrollable hemorrhages with and without slight traumata. Spontaneous hemorrhages from the mucous surfaces were often noted. Acute swellings of the joints which were followed by chronic changes so characteristic of the haemophilic joint occurred. Lastly pinhead size to very large cutaneous hemorrhages were frequently observed. The enlargement of the heart in case one was due according to Sahli to the marked anemia. In his first case the haemophilia appeared as usual in the second year of life. In the third case it began at the eleventh month and in the fourth case it began at the third or fourth year. In case

two no history of the exact time of the beginning could be obtained. It was interesting to know in case two that with the eruption of each tooth very severe hemorrhage occurred.

Very interesting for all the cases was the heredity affecting in all branches of the family tree the male members, the females escaping but the latter in turn begetting male children that were bleeders.

The author cites the following theories now in vogue explanatory of this strange disease:

(1.) Virchow's. That the haemophilia is due to an abnormal brittleness and permeability of the blood vessels, owing to the thinness of their walls, the result of fatty degeneration.

(2.) Schönlein's. The hemorrhage being due to the high blood tension excited by the powerful action of the enlarged left ventricle.

(3.) Immerman's theory is to the effect that the hemophilia is the result of an abnormal relation, the result of mal-development between the volume of the blood and the capacity of the bloodvessels, resulting in high blood tension.

(4.) Oertel's theory is that it is due to an abnormal hydraemia.

(5.) Koch. Who believes the disease is due to an exquisite hereditary anomaly, the result of chronic toxæmia.

The following are the results and conditions of Sahli's studies into the causation of the disease.

The examination of the blood of haemophiliacs from three different families showed a diminution in the percentage number of neutrophiles with an increased number of lymphocytes. The general leucocyte count was normal. The blood-plates showed a slight diminution from the normal.

The alkalinity of the blood was normal, as was the freezing point of the blood serum.

In one case the amount of fibrin was estimated and found normal.

The coagulation time estimated in all four cases during the intervals free from hemorrhage was found greatly delayed. This delay is so constant that Prof. Sahli states that it is of great diagnostic value.

During the severe hemorrhages the coagulation time estimated from blood taken directly from the bleeding points flowing over coagula showed a very rapid coagulation.

The continuance of the hemorrhage despite the rapidity of the coagulability of the blood coming from the bleeding point, Sahli explains on the supposition of an abnormal condition of the walls of the bloodvessels with an improper amount of any kind of fibrin ferment passing into the vessel's lumen.

The delay of the coagulability of the blood in the interim he explains on the supposition of an abnormal chemical condition of the vessel walls. This changed condition of the vessel's walls together with an abnormal brittleness of them or increased porosity favoring diapedesis causes in his opinion the haemophilia.

Therapeutically he believes a good generous mixed diet should be used. Against the hemorrhages he has advised compression with sterile bandages soaked in two per cent sterile gelatine.

PATHOLOGY AND BACTERIOLOGY

Edited by Richard Mills Pearce, M. D.,

Assisted by Charles K. Winne, Jr., M. D., and Leon K. Baldauf, M. D.

A Study of the Dejecta of Normal Children and of Those Suffering from Acute and Subacute Diarrhea with Reference to B. Dysenteriae.

KATHARINE R. COLLINS. *Journal of Infectious Diseases, 1905, II, 620.*

This article gives a summary of the important work on the relation of the dysentery bacilli to the diarrheas of children, together with the results of some work now carried on by the author.

Up to the present time the dysentery bacillus has been found in the dejecta of but a very limited number of normal individuals, or those suffering from diseases other than dysentery. Shiga, Flexner, Drigalski, did not find them in normal stools while Duval, Wollstein and Charlton and Jehle, in Vienna, found them in the stools of only a few out of many normal persons whose faeces were examined.

The author and her colleagues have examined at different times, and in several well separated localities, the stools from fifty-seven normal children, all but ten of whom had been in contact, to a greater or less extent, with cases of true dysentery. In only three of these children were bacilli of the dysentery group isolated, although very thorough methods for their isolation were followed.

The stools from twenty-one children, in three New York hospitals, all of whom were suffering from either acute or subacute diarrhea, were thoroughly examined, and the dysentery bacillus was not found in any. Weaver, and Charlton and Jehle did not find any of the dysentery bacilli in the cases of summer diarrhea examined by them.

The author concludes that the failure to find bacilli of the dysentery group in infants suffering from so-called acute and subacute summer diarrhea, even though the symptoms were severe and repeated examinations were made, would lead us to suspect some cause or combination of causes other than this organism as the etiological factor in these conditions.

The Rôle of the Typhoid Bacillus in the Pulmonary Complications of Typhoid Fever.

G. CANBY ROBINSON. *The Journal of Infectious Disease, 1905, II, 498.*

The fact that typhoid bacilli are not infrequently found in the lung during an attack of typhoid fever has long been known, nor can it be considered an unexpected finding when one remembers the constancy with which the organisms enter the general circulation during life. Although it has been frequently recovered at autopsy, and even ante-mortem by means of lung puncture, there are in the literature but few cases in which it has been undoubtedly the cause of a definite pulmonary lesion, as usually the pneumococcus or some of the ordinary progenic cocci are found in association with it. *B. typhosus* has been found in the lung in cases of lobar and lobular pneumonia, in abscess and gangrene following the former condition, in infarcts and even in simple congestion or bronchitis. Robin-

son well summarizes the literature and reports several cases from the Pennsylvania Hospital which illustrates these various conditions.

Case 1—After remaining in the hospital twenty-seven days with a typical attack of typhoid fever, the patient developed suddenly the signs and symptoms of a pulmonary infarct from which he died a week later. At autopsy the main artery leading to the lower lobe of the right lung was found thrombosed, and that lobe was almost entirely converted into an abscess cavity. A broncho-pneumonia was found in other portions of the right lung, as well as in the left lung. A pure culture of typhoid bacillus was found in the lung abscess and in both lungs, and bacillus-like bodies alone were seen in sections stained by methylene blue, but no bodies resembling organisms were seen in sections stained by the Gram-Weigert method. In the other organs the lesions were typical of typhoid fever.

As no other causative agent was found in the sections or in the smears, Robinson feels justified in regarding the case as one of lung abscess, due to *B. typhosus*, secondary to pulmonary thrombosis and infarct; he considers the broncho-pneumonia also as due to this organism.

In another case of pulmonary thrombosis and infarction occurring during the course of typhoid fever, but not followed by abscess formation, typhoid bacilli were isolated from the infarcted area but not from the normal lung tissue. Sections through the pulmonary artery at the site of the thrombosis stained with methylene blue showed in several places rod-like bodies lying between the thrombus and the wall of the pulmonary artery. No such bodies could be found in the normal lung tissue.

The first case here mentioned is the only one of six broncho-pneumonias from which Robinson was able to recover the typhoid bacillus in culture, thus leaving this division of the subject in much the same state of confusion as before.

The rôle played by the typhoid bacillus in lobar pneumonia complicating typhoid fever has been much discussed. Although there is no doubt that the usual cause of this complication is the pneumococcus, yet there is abundant evidence that the organism may also be the causative agent. In six cases of lobar pneumonia complicating typhoid fever at the Pennsylvania Hospital, Robinson reports the pneumococcus as having been found three times and the typhoid bacillus but once, a case in which both organisms were found. In another similar case both organisms were simultaneously isolated in blood culture, and in another the typhoid bacillus was isolated in pure culture in a blood culture taken during life, but at autopsy four days later the pneumococcus only was found in the heart's blood. Here no doubt the organisms were co-existent in the general circulation during life.

He also reports a case of lobar pneumonia from the lung of which was obtained a pure culture of *B. paratyphosus* (type B). The man died on the eighth day of the disease in which typical physical signs of pneumonia were found; he had bloody expectoration and a low leucocyte count. At autopsy there was found a haemorrhagic type of lobar pneumonia. No organisms other than *B. paratyphosus* could be found in the tissues though smears from the lungs showed pneumococcus-like organisms.

Robinson calls attention to the marked haemorrhagic condition of the

pulmonary lesion in these cases, a condition first emphasized by Polguere, although noted at autopsy by several observers. The sputum in cases of typhoid solidification of the lung is almost always haemorrhagic, and from it the typhoid bacillus has frequently been isolated and occasionally in pure culture. Robinson reports fourteen such cases from the literature and one of his own, in four of which the organism was found pure. The occurrence of the typhoid bacillus in the sputum shows the importance of taking proper means to prevent infection from this source.

Robinson concludes as follows:

The typhoid bacillus not infrequently invades the lung during typhoid fever.

It may invade areas of the lung already the seat of haemorrhagic infarction and there produce abscess formation and gangrene.

The organism may cause broncho-pneumonia.

Lobar pneumonia as a complication of typhoid fever is usually due to the pneumococcus. This organism may be present as a general infection in the circulating blood simultaneously with *B. typhosus*.

It is probable that both *B. typhosus* and *B. paratyphosus*, type B, can produce a massive pneumonia, lobar in type. When these organisms are the causative factors, the pneumonia is of a peculiar haemorrhagic character, which may be recognized clinically from the bloody nature of the sputum.

The typhoid bacillus is not infrequently found in the sputum of typhoid fever patients with pulmonary complications. This fact should be emphasized in order that the spread of the disease by this means may be prevented.

MATERIA MEDICA AND THERAPEUTICS

Edited by Spencer L. Dawes, M. D.

Concerning the Treatment of Scarlet Fever with Antistreptococcic Serum.
(*Ueber die Behandlung des Scharlach mit Antistreptococcenserum.*)

F. GANGHOFNER. *Deutsche medicinische Wochenschrift*, 1905, 31, p. 529, 592.

The author reports the results of the use of both Aronson's and Moser's antistreptococcic serum in a small series of cases of scarlet fever.

The Aronson antistreptococcic serum was administered to fifteen cases, all but two of which were of a very severe type. The first few patients of this series were given the small doses of from 10 to 30 c. c., which Aronson at first recommended. Later these amounts were increased to 60 c. c and over at Aronson's suggestion, and better results were obtained by so doing.

There were seven fatal terminations. While a fall in temperature followed the administration of the serum in some cases, the fall was usually followed by a subsequent rise, and the author doubts whether it could be said that the decline was due to the serum injections. He also states

that it was not possible to come to any definite conclusion as to the value of Aronson's serum in scarlet fever.

The author follows the above by a detailed history of each of the eight cases of scarlet fever in which he used the Moser antistreptococcic serum in doses varying from 100 to 200 c. c. each.

These cases were very severe in character, and of the eight, five died, one within twelve hours of the injection. Only two were injected on the first or second days, and both of these recovered.

Some improvement was noticed in the first and fourth cases, which received 200 c. c. on the first and second days of the disease respectively, and both finally recovered. The temperature curves were not greatly influenced by the injections.

The course of the disease in the other cases was not definitely altered, nor were the complications prevented by the serum. Some improvement in the direction of a lessened frequency of the pulse occurred after the use of the serum in some cases.

Concerning the temperature changes the author states that he observed no such sudden falls as have been described by Moser, Escherich and others who have used the Moser serum in these large doses. In fact the slight declines in temperature he observed were no greater than those occurring after the use of the small doses of Aronson's serum.

He concludes that he cannot say definitely from the small number of cases treated by him with the Moser serum that it has a definitely beneficial influence on the scarlet fever processes.

The Treatment of Epilepsy. Prize Essay.

NORMAN G. HARRY. *The Practitioner, August, 1905, p. 245.*

In treatment, the first question should always be, "Can the attacks be ascribed to any cause which can be removed?" The reply is seldom in the affirmative but occasionally some peripheral irritation may be found capable of exciting reflex convulsions. Intestinal worms are often exciting agents, but the attacks do not always cease when the worms have been expelled; undigested food or an irritating cicatrix may be causative, but here too the removal of the cause does not always do away with the effect. Other causes may be dentition, adherent prepuce, foreign bodies in the ear or nose, fright, masturbation, and toxic agents.

Medicinal Treatment.—Bromides were first used in epilepsy in 1857 and their action may be divided into three classes; First, a small one, (probably much larger than is apparent), which results in a permanent cure; Second, one in which there is no influence for good; Third, a class much larger than both of the others in which, while the frequency and severity of the attacks are lessened, there is no permanent cure. It is not known precisely how the bromide acts, but it lessens the tendency to spontaneous "discharge," due to escape of nerve atoms to combine with the oxygen of the plasma, this being restrained by the chemical action of the bromide.

Of the various preparations of bromides the lithium contains the largest amount of bromide and strontium the least, the former therefore

would seem to be most effective, but this is not so, the most generally effective being the bromide of potassium. Combinations of the different salts are often used, but there is nothing to prove their superiority over some single one.

Administration.—First find the dose which arrests all attacks, slight and severe, and which the patient can stand, continuing this until it is supposed that stability is established, then discontinue by gradual diminution. Most relapses are due to the patient's allowing the treatment to stop when the attacks are arrested.

The best results are obtained by from twenty to thirty grain doses three times a day. Larger doses than the latter are seldom successful. It is best exhibited after meals to prevent too rapid absorption and to allow of combining with it some arsenic to prevent acne. Night attacks may be prevented by one dose of thirty or forty grains at bedtime. An early morning dose (without arsenic) will usually prevent the attacks which come on shortly after rising. Children take a proportionately larger dose than adults, less than five grains being useless. This treatment should be continued for at least two years, never being suddenly, but gradually discontinued during the third year, most cases of "status epilepticus" being due to a too sudden discontinuance. The bromide of stronium is reputed to produce less acne, but has no other superiority and large doses are not well borne. The bromides of nickel and camphor; bromalin; bromipin; and hydrobromic acid have their advocates but have little to recommend them.

Disadvantages of Bromides.—Mental and physical depression; this is due to a greater dose than the patient can stand and should be regulated accordingly.

The bromide rash; this can readily be overcome by combining small doses of arsenic with the bromides.

The status epilepticus following the omission of the drug should be treated by chloral, chloroform, hyoscine hydrobromate or morphine.

Treatment of attacks.—If the auræ are definite, an attack may be aborted by ligation of a limb (if the convulsion commences there), application of a blister, olfactory or gustatory stimulus or inhalation of nitrite of amyl.

All indigestible foods should be avoided, meat taken sparingly, and epileptic children should not be pushed as to education and some useful occupation should be given. So far as the individual is concerned, marriage has but little influence. If either patient is suffering from idiopathic epilepsy or there is any history of hereditary taint there is danger of transmission to the offspring.

Concerning a New, Active Constituent of Ergot, Soluble in Water. (Ueber einen neuen, wirksamen, wasserlöslichen Bestandteil des Mutterkorns.)

VAHLEN. *Deutsche medizinische Wochenschrift, August 10, 1905, p. 1263.*

The early part of this article is taken up with a history of the growth of the art of isolating the active principles of plants as a preliminary to

a detailed account of the active principles contained in ergot, and especially a new one which he claims to have isolated. At first he calls attention to the fact that Prescott in 1813 demonstrated that the power of accelerating labor, possessed by ergot, was much enhanced if the powdered drug was dissolved in water. He then describes in detail the two forms of ergotism, the gangrenous and convulsive, the first produced by sphacelenic acid and the second by cornutine, both constituents of ergot and notes the long known fact that neither of them are chemically single bodied nor soluble in water. After this preliminary he states that he has discovered or rather isolated a constituent which possesses several properties which neither of the other two does; namely that it is soluble in water and that it produces neither gangrene nor convulsions. This substance he calls clavin and he states not only that it is a chemically pure substance, but that it is the principle in ergot which makes it when powdered and dissolved in water much more efficacious as well as safe as an ebolic than when administered in any other form.

He has experimented with it in large doses on dogs and cats, both intravenously and per os and never with harmful results and he found that its direct effect upon the pregnant uterus was both prompt and energetic. His argument is that these results justify its use on man and he reports four cases in which it was used by Bumm, and two in which he used it himself. A two per cent. solution was used hypodermatically in doses of from 0.010 gram to 0.020 gram and it is shown that the drug apparently has the power of quickly inducing or increasing the uterine contractions where the pains have either ceased entirely or have become infrequent and ineffectual. There seems to be no irritating effect, so that its use subcutaneously is without the unpleasant results frequently attending the use of the fluid preparations of ergot.

While prolonged boiling and the addition of various antiseptic preparations fail to alter it, it is recommended that only fresh solutions be used in order to ensure activity.

When clavin is dissolved in water and evaporated to dryness it is seen to consist of a powder which under the microscope is crystalline; if precipitated from a hot concentrated solution of alcohol it presents prismatic crystals about seven to eight millimeters in length and its formula is $C_{11}H_{22}N_2O_4$. Thus far it has been impossible to form salts.

CLINICAL MICROSCOPY

Edited by Arthur T. Laird, M. D.

Concerning Variations in the Agglutinating Power of the Blood Serum in the Course of Typhoid Fever. (Ueber die Schwankungen des Agglutinationsvermögens des Serums in Verlaufe des Typhus abdominalis.)

JUL. G. IVERSON. *Zeitschrift für Hygiene*, 1905, XLVI, 1.

During the winter of 1901-1902 the author had the opportunity of studying more than sixty cases of typhoid fever at the Obuchow hospital in St.

Petersburg, and reports in this article the results of his work. A review of the literature showed that certain variations in the Widal reaction were not understood, and the biological significance of the reaction was still a matter of dispute. The writer hoped by clinical observation to throw some light on these problems.

His method of investigation was as follows: the ear lobe was rubbed with benzine and punctured with a fine pointed lancet. The blood was collected in a sterile glass pipette, tapering at one end to a point and having the other open end filled with a cotton plug. Separate pipettes of this sort were prepared for each case. After the blood was collected the small end of the pipette was sealed in the flame and the specimen was laid aside at room temperature for an hour or two; then the clot was removed with a sterile, platinum loop. A drop of the serum was placed in a watch glass and diluted with nine drops of sterile bouillon. A drop of the serum now diluted ten times was added to 10, 20, 30, or 100 drops of a culture of typhoid bacilli. The various dilutions were placed in "hanging drop" preparations and observed after half an hour. If at this time no reaction was seen in the preparation of lowest dilution (1-100) a drop of undiluted serum was added to 5, 10, 20, and 50 drops of typhoid culture. If no reaction was observed at the end of one-half hour in the one-fifth dilution the agglutinating capacity of the serum was represented by the mark (o). The measuring of the drops was done by means of a glass pipette similar to the one in which the blood was collected. If agglutination was very marked in the 1-100 dilution still higher dilutions up to 1-20,000 were prepared. The reaction was considered positive if clumps were seen consisting of four or five bacilli still showing some movement. The cultures used were sixteen to twenty hours old, and all were derived from the same stock culture. Every day five to ten sera were examined in dilution varying from 0 to 20,000. The test was repeated every three or four days in the case of each patient. The patients were, so far as possible, under the same conditions; they were nearly all working people of St. Petersburg living in similar environment, were between fifteen and thirty years of age and were not natives of the city, but contracted the disease during their first year of residence there. The treatment was uniform. Light cases received special diet and baths. In severe cases stimulants and symptomatic measures were also used.

The cases studied were classified in three groups:

(I) Including (a) simple uncomplicated cases and (b) cases having relapses; (II) fatal cases; (III) Cases of typhoid fever not included under (I) and (II) *e. g.*, mild, atypical cases and severe, complicated and protracted cases; (IV) cases, not of typhoid, but of other diseases. (Ia) Mild uncomplicated cases; 21 cases are reported; complete histories and charts showing temperature and agglutination curves are given. All of these cases showed a marked increase in the agglutinating power of the serum at the end of the febrile period about the 20th day of the disease. In the first week the agglutinating power was slight, or in many cases entirely lacking, at the end of the second week it began to increase, and in the first part of the third week showed a more or less sudden further increase, reached a maximum, and fell just as suddenly in the course of three or

four days and remained at the lower level, with a very gradual tendency to diminish throughout convalescence. The curve representing these variations is called the steeple curve, or "courbe en clocher" of Courmant.

(Ib) In the majority of the nine cases showing relapse the agglutinating power of the serum was represented by a curve similar to that of primary cases, but the agglutinating power was higher during the relapse than in the first illness, and sometimes appeared first in the relapse, having been entirely absent previously.

Group II. Fatal cases. Twelve cases were studied. These showed a rapidly increasing agglutinating power of the blood serum up to the end, in some cases reaching a strength requiring the 1-20,000 dilution.

Group III. (a) Mild atypical cases, ten showed a low atypical curve. (b) Severe, complicated and protracted cases. Eight of these showed complications with pneumonia, otitis media, empyema, etc., and lasted from six to ten weeks. The agglutination curve in these cases was not uniform or regular. Diplo- and streptococcus pneumonia occurring as complications diminished the agglutinating power of the serum or at least prevented any increase.

Group IV. The author obtained a positive widal reaction in one case of diphtheria, one case of military tuberculosis, two cases of pulmonary tuberculosis (in some of these cases even with a dilution of 1-250) ten cases of diseases in which jaundice occurred, including croupous pneumonia, hypertrophic cirrhosis of the liver, catarrhal jaundice and in one case of Addison's disease.

Twenty-one cases that had had typhoid fever and recovered were studied by the author. In thirteen cases a positive Widal reaction was obtained, in many of them it was very marked. It was most often found in the first year after the attack, but in individual cases it was present ten or more years after recovery.

The author believes the Widal reaction is specific, in that it occurs sooner or later in all cases of typhoid fever. On the other hand, it is not pathognomonic since it may appear in the course of other diseases, though rarely when sufficiently high dilutions are used. The reaction has considerable diagnostic value from the second week on, and must be considered one of the cardinal symptoms of the disease; the absence of the reaction is of value in excluding the diagnosis of typhoid fever, especially if low dilutions are used in making the test. The reaction has no prognostic value. There is apparently no relation between the degree of agglutinating power or its duration and the severity of the illness. The reaction is apparently a protective one and may even perhaps represent a condition preceding the establishment of immunity. The high value of the agglutinating power of the serum in severe and relapsing cases supports this view.

ALBANY MEDICAL ANNALS

Original Communications

SUBACUTE AND CHRONIC SEMINAL VESICULITIS.

(CATARRHAL FORM.)

*The President's Address to the Medical Society of the County of Albany,
read at the Annual Meeting of the Society, May 8, 1906.*

By JAMES W. WILTSE, M. D.

In 1889 Jordan Lloyd, in an article published in the *British Medical Journal*, first described the disease chronic seminal vesiculitis as a distinct entity. Previous to that time the condition had been considered as an irritation about the vesicle neck, or prostatitis.

As illustrative of the comparative recent recognition of conditions now accepted as almost everyday occurrences, may be quoted the opening paragraphs of Lloyd's paper. After referring to the fact that only a short time had elapsed since disease of the Fallopian tubes had been accepted as a not infrequent condition while a few years before the most erudite pathologists had considered salpingitis as only a morbid possibility, he continues: "Whether time will prove that the analogous structures in males are similarly prone to affections I do not know, but I am already convinced that inflammatory diseases of the sexual apparatus lying at the base of the male bladder are far from uncommon, and that in seminal vesiculitis the key is to be found to much that is puzzling in many of the so-called prostatic disorders."

In a second paper published in the *London Lancet* in 1891, Lloyd further elaborated upon seminal vesiculitis as a distinct disease and pointed out that while epididymitis had long been established as one of the more common complications of gonorrhoea, yet the infection in order to reach the epididymis must

travel through the vas deferens, a tube about eighteen inches in length, while to infect the vesicles it was only necessary that it should travel about two inches.

Eugene Fuller in the *Journal of Cutaneous and Genito-urinary Diseases*, for September, 1893, published his observations of twenty cases extending over a year and a half, with the details of seven cases; four of these cases or 57 per cent. were non-gonorrhoeal in origin. Since that time Fuller has carried on investigations which make his name more prominently associated with the disease than that of any other investigator, although all genito-urinary surgeons recognize the prevalence of the condition to-day.

It is not my purpose to do more than touch upon that form due to gonorrhoea because this disease is well recognized by all practitioners, but rather upon the simple or catarrhal form which I believe is often overlooked or passed along as a neurosis without a proper examination being made to determine whether or not a demonstrable lesion is present.

It is well recognized and admitted by most genito-urinary surgeons that many cases exist in which no history of a former gonorrhoea can be elicited. In fact the two cases cited by Lloyd, in his first paper alluded to above, gave no history of a former gonorrhoeal infection although both were of a very severe grade, one requiring aspiration through the rectum before being relieved. Again in the seven cases cited by Fuller, in his first paper, three had had a previous gonorrhoea while four were due to other causes.

An analysis of these four cases shows that one occurred in a man who had masturbated between the ages of nine and twenty-two. In a second no cause is assigned; this case had been under treatment for nine months and the author says the patient will probably never be well. In a third there was no history of a former venereal disease or sexual abuses, but the patient had worked excessively and had been under severe nervous strain. The fourth was a case of tuberculous disease of the vesicle.

Pathology.—In subacute vesiculitis the inflammatory process is largely confined to the mucous coat, penetrating the muscular coat only to a slight extent, if at all. The character of the secretion is not altered to the degree seen in the chronic form, being largely mucoïd and containing comparatively few leucocytes. In this form of the disease the contents of the vesicles are not much increased and, as a rule, the vesicle is not greatly distended.

Subacute vesiculitis, according to Fuller, is often found associated with an atonic condition of the vesicle wall and in these instances the sac is found much distended, as a result of the atony and not of the inflammation per se.

In chronic vesiculitis the deeper structures of the vesicle are involved and the pathological changes extend to the muscular coat and may even extend beyond the walls constituting peri-vesiculitis. The vesicles in this form of the disease are usually considerably distended and the walls thinned and fibrous. The vesicle usually contains a considerable amount of muco-purulent secretion. In some cases granulations form over parts of the cavity of the sac, causing distinct haemorrhage, while in others only traces are seen after stripping or in the semen where polylutions occur.

According to Fuller where a peri-vesiculitis occurs distention of the sac rarely takes place, for the outside inflammation, if of long standing, contains fibrous tissue enough to prevent the necessary expansion and in some cases to actually cause obstruction of the vesicular sac. The disease may be unilateral or bilateral, but in the latter case one side may be more severely involved than the other.

Guillot, who investigated the subject of stricture of the ejaculatory duct, was unable to find an instance of such a lesion. Fuller ascribes this to the fact that the ducts do not lie in connective tissue, but in the infundibulum of the prostatic-lymph space as it were. Consequently the greater part of an inflammatory infiltration would enter the lymph space and would not remain packed about the ducts in a loose connective tissue, eventually to create a connective tissue proliferation. The ducts do, however, often become plugged by inflammatory products and by thickened and altered secretion. The damming back of the contents consequent upon such obstruction of the duct may cause atony of the vesicle wall and finally distention.

Etiology. The inflammation may arise in the sac or may originate in the urethra and reach the sac through the ejaculatory duct. The latter is much the more common way of infection. In a few cases where the infection has been found to be due to the presence of the colon bacillus there is probably a direct migration of this organism through the tissues separating the vesicle from the bowel. Staphylococci and other pyogenic organisms are constantly found in the contents of these diseased

vesicles too, and whether they enter by the urethra and duct or by other routes is difficult of definite determination.

Fuller claims that when inflammation begins within the duct it is preceded by atony of the vesicle walls and is due to abuse of the function of ejaculation. No doubt that abuse of the sexual function in one form or another is an important exciting cause in many of these cases. That simple catharrhal vesiculitis however does occur in fairly continent men, men who are neither vicious nor ignorant and who are anxious to be cured and from whom therefore we may expect a straightforward history, is the experience, I think, of most practitioners who have done much work in this field. Many men suffering from this form of disease are highly intelligent, but of very nervous temperament. Many of them are in positions of trust or great responsibility where the nervous energy expended each day is excessive. In the past many of the cases have been, without proper examination, passed along as sexual neurasthenics.

Utzman in his work on "Genito-urinary Neuroses," says of nervous impotence: "Seminal vesiculitis is present in a large proportion of these cases of neurasthenia, and, unless remedied, will seriously retard, if not prevent, recovery."

In one case already cited from Fuller no assignable cause could be found except hard work and nervous strain.

A second class of cases is found in men who are addicted to excesses in alcohol and tobacco. It is well known that alcohol is an irritant to the genito-urinary tract and particularly to that portion about the so-called vesicle neck or in the prostatic urethra. This is well illustrated not only in the acute infections of the tract, but also in chronic conditions such as hypertrophy of the prostate.

The third and last factor which, in my judgment, is responsible for many of these cases, I have only found mentioned by three authors—Lydston, Fuller and Lloyd. They recognize the influence of bicycle riding in contributing to the production of the disease. In a case cited by Lloyd suppuration occurred which was only relieved by aspiration. The patient gave a history of having ridden a bicycle for five or six years and had noticed that whenever he rode the saddle pressed upon the perineum in such a manner as to cause frequent desire to urinate. Here there was undoubtedly a badly fitting saddle, but even where this is not the case, the repeated slight shocks received

upon the perineum, when riding upon pavements or over uneven country roads, continued over several years, is sufficient to produce a low grade of inflammation. Horseback riding, too, is a prolific cause, although not so often seen because fewer can afford this form of recreation.

The following is a summary of eight cases of chronic catarrhal vesiculitis occurring recently in my practice. The patients were all single. Their ages ranged from 22 to 30 years. One case gave a history of masturbation five or six years previously. Six of the eight cases were bicycle riders. One of the latter also frequently rode horseback, and one other in addition to the slight and frequent traumatism produced by the ordinary bicycle riding gave a history of a violent trauma to the perineum produced by his wheel running into the curb, and it was only after this accident that symptoms were noticed.

Sexual History.—Complete impotence, one case; partial impotence, two cases. Decreased sexual power in all.

Urinary History.—Frequent urination, three cases; urination unaffected, three cases; urination inhibited (reflex), one case.

Venereal History.—No history of gonorrhoea or syphilis.

The history of these cases vary so little that a detailed report of three will suffice to illustrate the condition.

CASE I.—Male. Single. Aged 22. Occupation barber.

Family history, negative. Personal history, has never had any venereal disease; has not had intercourse during past six months. Has never masturbated excessively. Four years ago began to ride a bicycle. Rode a great deal during two years. For past two years has not ridden. Last summer began to notice he had to urinate more frequently than normal and the desire was very urgent. There was inability to retain urine when desire was present. About two months ago noticed purulent discharge from meatus and also that undergarments were stained by discharge. Discharge was rather thin and mucoid. Occasionally has to rise at night to urinate, especially if he drinks a glass of beer during the evening. Examination per urethra shows strong spasm of compressor urethrae. Prostatic urethra exquisitely tender. Examination per rectum shows left seminal vesicle considerably enlarged, and very sensitive. Pain referred to bladder neck and patient feels as though urination were imminent. Right vesicle involved to a lesser degree. Diagnosis: Chronic catarrhal seminal vesiculitis.

CASE II. Male. Single. Aged 26. Occupation, electrical inspector.

Family history, negative. Personal history: never had any venereal trouble nor any constitutional disease. About six or seven years ago began to ride a bicycle. Rode a good deal for two years. Then did not ride until last year, when he rode moderately.

Present trouble dates back four or five years when he began to lose power of erection although he had never been immoderate in his sexual relations. With loss of erection he had occasional nocturnal emissions without dreams. He believes he unconsciously masturbates while asleep. Emissions occur about twice a week. Has given up all effort at coitus, because when he has tried penis remained flaccid although desire was present. Examination per urethra—no stricture. Prostatic urethra sensitive. Examination per rectum shows both vesicles enlarged and tender. Left more affected than the right. Diagnosis: Chronic catarrhal vesiculitis.

Patient improved rapidly under stripping of vesicle. Emissions abated, erections firm and cure nearly perfected.

CASE III. Male. Single. Aged 23.

Family history, mother living and well, aged 56. Father died at 37 of pneumonia. One brother and sister, both well. Father, brother and patient all had varicocele. Personal history: never had any acute disease. No venereal disease. Masturbated from twelve to fifteen, then learned the evils of it and stopped. Soon after began riding horseback (rode for one and one-half years). Since then has ridden a bicycle more or less. Formerly had nocturnal emissions frequently.

Status Praesens. Now has nocturnal emissions once in two or three weeks. Feels better after emissions. Has no intercourse or does not masturbate. Feels some indefinite unpleasant feeling when urinating. Examination per urethra shows hypersensitive prostatic urethra. No stricture. Examination per rectum shows both vesicles somewhat enlarged and sensitive; the right more involved than the left; prostate, too, somewhat enlarged in this case. Diagnosis: Chronic catarrhal seminal vesiculitis and prostatitis.

Symptomatology. Briefly the symptoms may be grouped under three heads: first, those referable to inflammation in general; second, those referable to the sexual sphere; third, those affecting the urinary function.

Pain or a sense of discomfort and uneasiness is present in almost all cases. In many cases pain is a distinct symptom and is referred by the patient to the vicinity of the disease, that is, to the neck of the bladder. In other cases the pain is reflex and may be referred to points far distant from the seat of the disease. It may be located by the patient at the end of the penis or over the region of the spermatic cords, in the groin, or again to the testicle and in some cases to the back at a point corresponding to the vesicle neck. In some cases the pain does not seem to be commensurate with the amount of disease found upon examination, while in others, where the pain is greatest, the amount of distention and involvement seems less.

In many cases the disturbance is not sufficient to be pro-

nounced a distinct pain, but consists of discomfort and uneasiness which is not easily referable by the patient to any particular location. These are the cases very often diagnosed as a sexual neurosis; a careful examination per rectum will, however, reveal a distended or sclerosed vesicle.

Besides pain, the other signs of inflammation present are, thickening or sclerosis of the vesicle wall, distention of the sac, a feeling of boginess to the examining finger, fluctuation when the sac is distended and the ejaculatory duct blocked by inflammatory products. Increased heat in the part is not a prominent symptom of this form of vesiculitis.

In the sexual sphere many disorders are noted; in general though it may be stated, that in the earlier stages erection and erotism are increased. During this stage, if the patient remains continent, pollutions are apt to be frequent, or if he indulges his abnormal sexual desires, he is unsatisfied no matter how frequently repeated. In other cases coitus may ease the sense of discomfort over a short period, but it soon returns again. When pollutions occur they may be mixed with blood, and at any rate they always contain pathological elements. In one case referred to me by a life-insurance examiner, many dead spermatozoa had been found in the urinary sediment. They are present in greater or smaller numbers in the majority of cases.

As the disease pursues its course the symptoms of irritation on the part of the sexual apparatus subsides and the sexual powers decline. Finally, a condition of partial or complete impotency supervenes. Ejaculation may still take place and is often premature, but erection fails and the penis remains flaccid.

In many cases the patient does not seek relief until this condition has been established.

Urinary symptoms. Urination may be more frequent; the urgency, when the desire is felt, may be greater or it may be inhibited. Frequently a sense of smarting or burning is felt at the vesicle neck when urine is passed. Tenesmus, too, is often felt in the deep urethra. On the other hand, if during sleep or from some other cause, the patient has acquired a full bladder, inhibition amounting to retention for a considerable period may ensue. In one of my cases the patient had gone to bed thoroughly exhausted and slept for twelve hours. When he attempted to empty the bladder, the inhibition was so complete

that actual retention was present for over an hour. This might be put down as retention due to over-distention, if it were not for the fact that he is similarly troubled, but in a slighter degree, whenever he is so situated that he cannot promptly empty the bladder when the desire is felt, and that concomitant with the bladder symptoms he had undoubted vesicular disease.

As the vesicle is closely attached to the bladder wall extending from the point where the ureter enters the bladder down behind the prostate, finally to enter that organ through its ejaculatory duct, it is probable that an over-distended or even moderately distended bladder puts the vesicle on the stretch, and the sympathetic nerve supply for the bladder sphincter and the vesicle being practically the same reflex action from nerves supplying the inflamed vesicle, causes spasm of the bladder sphincters.

The urine often contains pathological material emptied from an inflamed vesicle into the posterior urethrae at the end of urination by the contraction of the bladder sphincters.

There are many other symptoms mainly of the psychic or neurotic character which might be enumerated, but those already noted I consider the essentials and will not go further into details.

Diagnosis. The diagnosis is based upon a history giving in part or wholly the symptoms set down above or possibly many others added, and to digital examinations per rectum. The main reliance is of course to be placed upon palpation through the rectum, as prostatitis and cystitis when confined to the bladder font and neuroses of the genito-urinary tract may give a similar history. With the patient in the proper position and under proper conditions the vesicles can be readily palpated, and any difference in size or consistency can easily be made out. Usually, too, a complaint of pain or soreness will be made by the patient even upon the most gentle manipulation. Pain is not, however, always complained of, and the physician should rely more upon what he feels than upon complaint or non-complaint of the patient. As in the massage or stripping of the vesicles, so in their examination the patient should have a full bladder; then when the physician has satisfied himself as well as possible, by palpation, as to the condition, some of the contents of the vesicle may be expressed. The secretion collected at the meatus if enough runs forward through the urethra for that purpose or collected from the urine passed after massage, if this is necessary, to complete the diagnosis microscopically.

The technique of examination for diagnostic purposes and for the stripping of the vesicles in the treatment is so nearly the same that I shall pass on to the treatment and speak of it there.

Treatment. To Eugene Fuller of New York belongs the credit of instituting and advocating the stripping of the vesicles in chronic seminal vesiculitis. In an article (referred to in an earlier part of this paper) published in the *Journal of Cutaneous and Genito-Urinary Diseases* for September, 1893, Fuller gave his experience extending then over a period of about one and a half years in the study and treatment of twenty cases and advocated this method of treatment.

I can remember several years after, hearing skepticism expressed as to whether it was possible to reach and strip the vesicle in the manner described or not. To-day, however, it is generally admitted and recognized as the only rational procedure in this class of cases; not that it cures them all as Fuller readily concedes. In a small percentage the vesicles are so badly damaged that operative measures must be resorted to and in still others, where so grave a procedure does not seem warranted, massage does not entirely cure, but it may be safely said that where indicated all are improved and many cured. Again, as he has noted, the sense of touch must be as highly developed in the examining finger of the genito-urinary surgeon as in the gynecologist in order that he may know what he feels or whether it is diseased. This is acquired only after considerable experience.

The patient should be massaged with a full bladder, the vesicles standing out more prominently and being more accessible to the massaging finger when the bladder is in that condition. The patient is then placed with the feet slightly separated and the hands resting upon a stool or seat of a chair so that the back is in the horizontal position. Then the operator, standing behind the patient with the left hand over the abdomen above the pubis, inserts the right index finger into the rectum and with counter-pressure over the lower abdomen forces, so far as possible without the use of too much force, the contents of the pelvis down toward the perineum. The examining finger first feels the base of the prostate and is then pushed forward and to the side of the prostate until the junction of the vesicle and prostate is felt. The vesicle is then followed as far toward the posterior extremity as possible. Then with gentle force the stripping is done; the contents of the sac being forced ahead of the finger through the

ejaculatory duct into the prostatic urethra. This motion is repeated several times, depending somewhat upon the degree of tenderness and pain produced. As improvement takes place the force used may be increased and the duration of sittings lengthened. In my experience the period elapsing between treatments should range from three to five days.

Many patients will need no other treatment. Others may need tonics or other internal medicine, according to indications. No treatment applied through the urethra is of any value, and may do distinct harm if of an irritating character.

A BRACE TO AID IN THE TREATMENT OF FLAT OR WEAKENED FEET.

By JOHN M. BERRY, M. D.,

Troy, N. Y.

In an article appearing in the ALBANY MEDICAL ANNALS for April, 1906, I discussed the flat-foot series of disabilities and deformities of the foot and their treatment. I also showed the drawings of a brace which I had found useful in the treatment of weakened conditions of the foot. In the present article, after a brief discussion of the indications for and the requirements of a flat-foot brace; I wish to present some of the advantages of the above mentioned special brace over other braces in use and also to describe the manner of making.

It is not the purpose of this paper to discuss fully the indications for the use of a foot brace. Not every case of flat or weakened foot need be treated by a brace and in nearly all cases the brace should not be the only method of treatment. In the vast majority of cases the foot brace is simply an aid to treatment. The great variety of flat-foot braces on the market is an excellent proof of the inability to cure all cases of weakened foot by the simple use of a brace. The aim of all treatment should be first, to reduce deformity; second, to keep the deformity reduced; and third, to strengthen and build up the foot so that it will be able to support itself and not relapse into deformity. The use of a brace to reduce actual bony deformity is a practice to be condemned; its chief use is to keep the foot supported and prevent the recurrence of deformity. A brace plays but a small part in strengthening a foot.

It is manifest therefore that the conditions of the foot in which the use of a brace would be beneficial are as follows:

(1) Cases of flat-foot, non-rigid, after the deformity has been reduced and pain relieved by the use of adhesive strapping or plaster paris casts; (2) cases of rigid flat-foot that have been reduced by operative means; (3) all cases of weakened arch of the foot which need support of the arch until the foot itself can be strengthened; (4) paralytic cases; (5) cases of weakened foot where there may be no actual falling of the arch yet a proper brace is beneficial in that it tends to make the foot assume such a position as will throw the weight of the body on the outer side of the foot, that part of the foot which is normally adapted to it; (6) cases of pronated foot, a condition most frequently seen in young people where there is a rolling in of the ankles (a condition formerly diagnosed as weak ankles); in these cases the use of a brace throws the foot into a proper position in relation to body weight and progression.

I have used a brace with benefit when there was a painful condition of the metatarso-phalangeal joint of the big toe, as in gout. Here the brace relieves the pressure of the body weight on the joint and throws the weight more onto the outer side of the foot.

A brace acts by exerting corrective force with the body weight as a counterforce. The chief requirement of a brace should be that it supports the foot in a proper position and that it exerts pressure not only under the internal longitudinal arch of the foot but also laterally in such a way as to restore the normal contour of the foot and also prevent recurrence of deformity. In many cases of weakened arch the deformity seems to be as much a lateral displacement inward as a falling of the arch. A most important requirement of a brace should be that while it is supporting the foot both on the plantar surface and laterally it should not splint the foot, thus not interfering with the normal motion and hindering the foot from strengthening itself by use. Still another most important requirement is that it be a comfortable brace. Any foot brace is uncomfortable enough, but when to a painful foot and nervous irritable temperament, a combination often found, is added the constant pressure and irritation of an uncomfortable brace, a condition of affairs results, which is well-nigh unbearable. Of course every brace should be a brace for the individual foot. The use of ready-made

braces and supports of any sort should be discouraged. The work necessary to be gone through with in taking castings for braces is an item of more interest to the surgeon than to the patient, but of two braces equally good, even the patient would prefer the one which required the least trouble to make.

Some braces support the arch, but exert no lateral pressure on the foot to prevent lateral recurrence of deformity. Some braces do both of these things but splint the foot. Other braces are objectionable on account of their uncomfartableness. No attempt will be made to mention or describe all the flat-foot braces that have been devised. I will simply present outline sketches of some of the more commonly used braces.

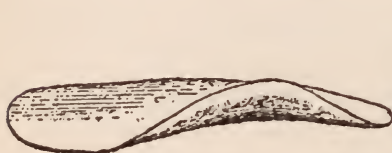


Fig. 1



Fig. 4

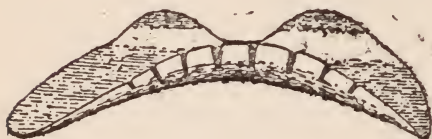


Fig. 2



Fig. 5



Fig. 3

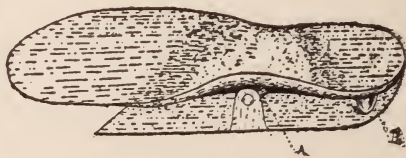


Fig. 6

Figure 1 shows a type of brace in common use. The brace figured is known as the Bradford and Lovett brace.

Figure 2 is a brace used by Dr. Young of Philadelphia.

Figure 3 shows a very common type of brace; the brace figured being known as the Arrow-Smith brace.

Figure 4 represents what is known as the Whitman brace.

Figure 5 is the cut of a brace made by Gustof Gefvert and Sons of Philadelphia. The upper portion marked (A) by means

of the hinge (C) shuts down on the block (B) and so makes a support to the under surface of the arch. The height of the arch can be regulated by the height of the block (B). The same spring can be applied to either foot.

Most of the braces in use are simple in structure. The simplest of all braces are graduated sizes of soft rubber pads which are supplied by some instrument houses. Other forms of braces are incorporated into the shoe. Ochsner has a brace which is made into the shoe and by turning a thumb screw at the heel the height of the arch can be raised or lowered at will.

Figure 6 shows a complicated brace devised by Nicoladoni. This brace swings on a pivot marked (A). The brace as a whole can tip forward in walking but cannot tip backward on account of the peg (B).

None of these braces meet all the requirements for a brace. Some support the arch on the under surface but not laterally. Some splint the foot. Some do not allow of normal motion in the foot and some are uncomfortable.

A sketch of the brace which I have used and found very satisfactory in fulfilling the requirements of a brace is shown in figure 7. It consists of two parts, a supporting portion (A) and



Fig. 7

a base piece (B). (C) represents the tongue portion of the support which fits into the slot in the base piece marked (D). The supporting portion is made of No. 16, 18 or 20 (depending on the weight of the patient) tempered galvanized steel fitted over a plaster-of-Paris model of the arch of the foot. It supports the arch of the foot and it projects high up on the inner side of the foot so that when worn with a properly constructed laced shoe it exerts firm lateral pressure on the foot, thus preventing lateral deformity. It does not cover any of the weight-bearing portion of the heel or ball of the foot and is attached to the base piece in such a manner that it is movable in every direction, thus allowing all motions of the foot to take place. In other words

it supports and holds in position the arch of the foot with the smallest amount of splinting. The base piece serves simply to hold the supporting portion in place. It is made of flexible spring brass so that it readily conforms to the shape of the bottom of the shoe, and when it slips into place in the heel of the shoe the arch supporter is in its correct position.

As has been previously mentioned the trouble to the surgeon and patient attendant upon getting a brace is an important consideration. Plaster casts of the entire foot which is necessary in the making of some braces is a procedure requiring considerable use of time and plaster. The method of taking the plaster cast for the brace in question is as follows.

The patient sits with the knee flexed and resting on a support in such a way that the outer surface of the foot rests on a flat surface while the plantar surface of the foot rests against an upright support. In this position the pressure of the flat surface makes the outer edge of the foot straight and gives an adducted position to the foot. The foot presses closely but not too firmly against the upright support, thus leaving a space between the foot and the support corresponding to the arch of the foot. The support is tilted somewhat to allow the position to be assumed by the patient more comfortably. The support and the position assumed by the patient is shown in figure 8.

The arch of the foot is first coated with vaseline to prevent the plaster adhering and with a dermatographic pencil the outline of the brace is drawn on the foot, special care being used in marking out the anterior and posterior limits and the height to which the brace rises laterally. The foot is now put in position on the support and the space represented by the arch of the foot filled with plaster cream. The plaster hardens in a few moments and on removal the outline made with the dermatographic pencil will be found to have been transferred to the plaster, as shown in figure 9.

Any imperfection in this "negative" cast can be filled out with plaster cream and after this has hardened, the surface is coated with vaseline, the outline of the brace freshened, and a "positive" cast made, as shown in figure 10. Here again, as in making the "negative" cast from the foot itself, the outline made by the dermatographic pencil is transferred.

If it is deemed necessary the arch on the positive model can be deepened or modified by cutting away the plaster. This is

To illustrate Dr. Berry's article on "A Brace to Aid in the Treatment
of Flat or Weakened Feet."

Albany Medical Annals, September, 1906.



Fig. 8

especially necessary in cases where the arch is very low or where oedema or swelling has partially obliterated the arch.

The cast is now sent to the instrument makers and the steel plate filled to the outline.

In making the base piece it is my custom to leave the portion posterior to the support much longer than necessary, then on fitting the support into the arch of the foot, the outline of the heel is traced on the base piece and the base piece cut to conform to the outline and accurately fitted to the inner sole of the shoe.



Fig. 9

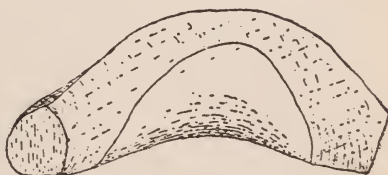


Fig. 10

The advantages of a brace made as above, can be summed up as follows:

It is light. It fits the foot accurately and supports it in a proper position. It does not splint the foot but allows free motion. It is comfortable and easily adjusted to the shoe. Its use has been followed by excellent results. The best results can be obtained only when this brace is used in combination with a properly constructed shoe. A description of the shoe can not be given here but it should have a stiff steel shank and a firm heel counter.

PROFESSIONAL CIRCUMSPECTION.

The President's Address to the Medical Society of the County of Columbia, on its Centennial Anniversary, May 8, 1906.

By ELLWOOD OLIVER, M. D.

Ancram, N. Y.

A century of medicine has passed and we of to-day stand, much as our fathers stood, on the threshold of the newer things to come. The dark empiricism of the past has become the clearer empiricism of the present, and we have been and are developing and broadening with mighty strides toward the great eternal truths

of life and health and longevity; yet the goal of absolute knowledge for us is still afar off.

We have accepted the therapeutics of Hahnemann and of Beach and Scudder as equally rational and efficient with our own in combating disease and to-day the homeopath and the eclectic have an equal rating with any and every regular physician. In fact it may with truth be said that the physician of the old school, the homeopath and the eclectic are all rapidly merging in one common class, the regular physician of to-day, and, together, all are pushing forward and seeking, with most arduous efforts, a more positive, a more scientific and a truer therapeutic knowledge.

With us there is much apparent foundation for the saying that the "medicine of to-day lies in the personality of the man as much as in the remedies he employs;" for we cannot but confess that as yet we have but few specifics for disease and the great mass of our functional remedies are looked upon as of doubtful value, if not often of positive harm to the lasting integrity of the economy; while we all now realize that sunlight, pure air, cleanliness, pure water, wholesome food, a pleasing, hopeful and hygienic environment and the "simple life" prove oftenest the truest specifics for life's varied ills. These facts are but too patent to us all and lead us to clearly perceive that the medicine of the future is yet to be written and the therapeutics of tomorrow are but in their formative stage. These things, however, should not discourage us nor make us halt or lose faith in the positive and abiding value of medicine. Our past glorious history of mighty achievement should give us a more forceful incentive to hasten our future perfection. We fully believe and feel that the science of medicine alone is the true guardian of the physical well-being of the race, and as such we who claim its fatherhood should ever search without ceasing for absolute truth, knowing that from a truer knowledge of disease we must eventually evolve a truer therapy.

To clear away the débris and difficulties and make straight the way to this end means for each of us toil, sacrifice and consummate wisdom; for we all fully know that during this process of evolution we are and will be continually surrounded by strange beliefs. New fanaticisms are and will ever be springing up about us, constantly antagonizing us with their spurious creeds, oft-times gaining considerable foothold with mankind; to evidence

which I need but mention the strenuous and almost successful efforts being put forth by the osteopath to have a legal rating with us. We cannot but fully realize the great danger such recognition would work to the progressively high standard we are aiming at in our profession, and we must even now, more fully than ever, awaken to the fact that we are the great educators of mankind in the matters of health and disease; and that our part in the universal division of labor has for its primal object not pecuniary gain but rather the mental and physical well-being and material uplifting of humanity. We therefore do and must stand as its teachers, and as such the burden rests with us to demonstrate and lay bare before the great cosmopolitan world the truth and error, the wisdom and folly, of osteopathy, Christian science, faith healing, vegetarianism, cold-water curists and every other cult, creed, fad and fancy now present or that may hereafter find lodgment in the universal mind. This means to us labor, hard, wise and unselfish. We cannot dissolve error by ignoring it; neither will silent contempt or open, wholesale and unthinking ridicule, condemnation and persecution rid us of fallacies and false prophets, but will often prove the very means of spreading and supporting them. To sift the wheat from the chaff and establish truth means for us earnest, honest effort, and a liberal unbiased breadth of thought. To this end I purpose to call your attention to certain things that you, with your larger minds, may broaden and add to the same for our mutual benefit.

First: Hidebound, fossilized orthodoxy is untenable; for with all our knowledge and all our accepted truth, the great comprehensive mind of man is after all fallible, and human truth is only relative, not absolute. All of us, from the least to the greatest, are but students till we reach the grave; while even the wisest of us but "see through a glass darkly." We should, therefore, discard fixed skepticism and think and reason always with open, receptive minds, striving ever to keep abreast of the modern progress of thought; proving all things and holding fast to that which is good till something better comes to take its place. We should not hesitate to accept newer truths if their demonstration be clear, for we know that the accepted truths of to-day oftentimes prove but the errors of to-morrow, because they have been established from false premises or through faulty reasoning or both.

Second: We should no longer hold medicine a mystery, but we should take mankind into our confidence and strive to educate the masses along the lines of truth as we know it; freeing their minds from deceptions and superstitions and giving them a truer conception of our relations to them in this intricate and complex round of life. We do not hold the keys of life and death, and to seek to maintain such position is gross deception. To declare, for instance, to the family, at the death-bed of a patient; "Had I been called earlier he would not have died," is absurd and antagonistic to every concept of our God. Expressions of this sort are unwise, for they too often demonstrate their own falsity, and did we but think twice before we spoke such errors would be fewer and our worth more great. Again we should discard obsolete terms and phrases. Their name is legion. Here are a few: "bad blood," "blood turned to water," "milk leg," "bad kidneys," "bad liver," "stomach out of order," "kidney rash," "measle rash," "black measles," "typhoid pneumonia," "typhoid malaria," "threatened with a fever but broke it up." Such terms are often meaningless, and always deceiving and misleading. They savor only of the darker empirical past, link us to its proven errors and leave us therefore without excuse for using them. Still further on this theme I might mention the important subject of preventive medicine and the great necessity for educational work along this line. Someone has said that "the medicine of to-day lies between the surgeon and the health officer." With so sweeping a declaration we could none of us but take sharp issue; that surgery has surpassed medicine in achievement in the last century is an acknowledged truth; but that the health officer has absorbed medicine is a "pipe dream"; and yet we cannot gainsay this fact, that personal hygiene, general intelligent sanitation, rapid and effective isolation of contagious diseases and wise observance and instruction in all other things which go to make up the sum total of "preventive medicine" are worthy of more thorough and earnest consideration than the past has given them. I shall dwell here but a moment to call your attention to contagious diseases. For the year 1905, New York State registered 137,234 deaths from all diseases. Out of this number there were 14,078 deaths from tuberculosis, 2,296 from diphtheria, 988 from measles, 848 from whooping cough, and 729 from scarlet fever. The statistics for 1904 show practically

the same conditions. The figures show all too plainly that greater energy is demanded of us in wrestling with the difficult problem of the great, white plague which is now causing yearly more than ten per cent. of all deaths. Stronger, bolder and more positive means should be inaugurated to eradicate this disease, which is met with to-day in practically every home in the land. To deceive a tuberculous patient of his disease or to neglect to show him and his family clearly the great menace his disease is to his environment should be counted by us to-day an unpardonable sin. With diphtheria, in our present enlightenment, it is a grave mistake for any physician to hesitate or delay in using Antitoxine; because: first, its superior remedial efficiency marks it practically a true specific for the disease; second, its immunizing power on individuals exposed to the contagion is universally positive; and third, its employment under proper care is assuredly free from the slightest danger of evil effects.

Concerning measles and whooping cough, their death rates are exceeding that of scarlet fever, and furthermore, too often both these diseases leave their victims ripe subjects for tuberculous infection; it would, therefore, seem but greatest wisdom to show the masses the true status and danger of these diseases and to practice with them the same universal quarantine that we now place on diphtheria, scarletina and the like.

Third: With every patient who comes under our observation, we should, regardless of anything, always exercise deliberate care and honest candor; for, in the last analysis, the people themselves are the great moulders of the opinions of our worth and necessity; and we hold our progressively high place and are able to check and choke out false creeds and charlatans according as we prove ourselves worthy of their composite favorable opinion, faith and trust.

Mankind, in this age of progressive intelligence, demands of us as much of truth about disease as we know, and we are neglecting our duty when we give less. Hasty, careless examinations and equally careless, hasty diagnostic guesses should never be indulged in. The patient who goes to several physicians, receives a hasty examination from each and from each a different opinion of his case will, from sheer necessity, begin to distrust us as a mass; lose faith in the former high ideals which he entertained of us, and, in his accumulated mental unrest, perhaps

seek some other creed which seems to him an equally sure or mayhap, even surer way to health. Whereas, had each consultant sought the truth for him with diligence and care and expressed the same to him with unbiased candor, he would be compelled to hold all honest, and his ultimate judgment would but prove the true value and standing of the science of medicine which has for its great objects, the relief of suffering, the aiding of nature in the healing of diseases, the promotion of health and well-being and the prolongation of life to the individual and therace.

Fourth: Within our own body, self-interest, misrepresentation, sectarian dissension; individual or collective antagonism; ridicule or derision; unjust, unnecessary or malicious criticism, are the height of folly. They breed disrespect among us; impart a dangerous uncertainty to our knowledge and methods; destroy confidence in us as an effective and necessary unit; lower the standard of our real value to the world's general uplifting and well being; and furnish a very fertile soil for the growth, development and spread of every occult creed and morbid belief that may germinate in the versatile mind of man. If we quarrel with ourselves and prove each other fool, pray tell me how humanity will know the truth of our individual and collective worth?

Selfishness, egotism, bigotry, deceit, envy and jealousy are but the baneful landmarks of an unlearned, superstitious past and should find no place among us in this progressive age of Christian intelligence and ethics. Selfishness in its broadest sense is probably the worst evil of the human race, and surely the worst evil that can creep within our profession, and therefore each of us should continually struggle with it till every last atom shall be destroyed. We should realize that the practice of medicine is one of the noblest labors of our progressive complex life. No line of human activity calls for greater self-sacrifice or purer altruism. In this great whirl of humanity we are but instruments in divine hands to show forth, clearly, the danger signals along the track of life's swift rush, and in the discharge of that trust, each, with the knowledge he commands, labors in the way which seems to him safest and best. Each, therefore, if he be honest and faithful, is worthy of recognition, respect and praise. Superior knowledge and superior merit alone should mark our standing and should be the only means of competition among us. He who takes a

mean advantage of his fellows or tacitly listens to the world's abuse of them is not only foolish, but is also most hurtful to the whole body; for whatever affects the individual must of necessity be felt by the whole organization of which he is a part. It would advantage each of us greatly to memorize and use as the rule and guide of our faith and practice the code of ethics as set forth by the American Medical Association.

Finally we must never lose sight of the dual nature of man. It is a sad and regrettable fact that the average physician, unconsciously or by inclination or otherwise, quickly drifts into materialism and is branded by the laity (sometimes with justice) as rough, cruel, heartless and unsympathetic. He comes to view the individual with whom he comes in contact as a mere physical structure, and loses sight of or entirely ignores, in his hard reasoning, the fact that he has a soul, an infinite spiritual nature. The physical life has so absorbed him that he neither sees nor cares for aught beyond. The five senses must prove every concept he will ever entertain. He thus loses faith in the intangible, the higher eternal principles, and renders himself a dead weight to the spiritual uplifting of society. Lest we forget the insidious presence and growth of this attribute of our makeup, we should give sharper heed to the cry of humanity sounded by ex-President Cleveland at the Centennial Anniversary of the New York State Medical Society: "Tread lightly, gentlemen, for you have to deal with temples of the Holy Ghost."

As we stand to-day on the threshold of future medicine you will I trust, pardon my indulgence, in conclusion, in this hopeful, inspiring, prophetic inquiry: A hundred years of medicine have passed and to-day the man with the knife is king. We of the companion craft stand as his willing vassals to do his bidding; rejoicing at his smile and trembling at his frown. Yet, in the light of our present knowledge and progress, may it not be possible and probable that when another hundred years of medicine have rolled away the man with the pill and the personality and the broader, clearer, truer, and nobler concept of universal life, will find some way to circumvent the knife and be himself by truer right crowned king?

MODERN SCIENTIFIC MEDICINE AND ITS RELATION TO UNION UNIVERSITY.

An Essay Representing the Medical Department in a Symposium on the Relation of Modern Education to the Several Departments of Union University.

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Science in each of its constituent divisions is advancing at the beginning of the twentieth century with most persistent energy. In none is there more rapid evolution than in the physical and biological departments of exact knowledge. Atoms are dissolving into electrons; electricity is revealing new principles, useful in their application to the practical arts; physics is penetrating further and further into the depths of the heretofore unknown; scientific medicine is daily disclosing some marvelous new discovery. Each member of the scientific family is in process of rapid evolution—therefore no one is to be regarded as finished and complete. Medicine once a pretender in the ranks of science, has acknowledged in these later days its errors and imperfections and now diligently seeks the truth.

Like all other sciences great epochs have marked the progress of medicine. There were at times years of idle speculation; at times periods of patient research and then the light of discovery. The passing centuries have had Harvey the physiologist and Vesalius the anatomist; Bichat the histologist and Galen the therapist. How few during all the preceding centuries have been the workers in the barren fields of scientific ignorance. Then came Hunter a little more than a hundred years ago. There can be no question but that John Hunter was a scientific medical genius, unquestionably great. Numerous and momentous as were his contributions to the aggregation of ascertained facts it was not the discoveries of Hunter that entitle him pre-eminently to the profound veneration of all subsequent medical investigators. It was his intellectual appreciation of the absolute essential of successful exploration of the unknown and his inherent power to impress his contemporaries and their successors with the paramount importance of his scientific conclusions. He subjected to experiment all things and held opinion as valueless until proved

by inductive reasoning. It was his inductive method of research that yielded him so large a measure of personal success in the elucidation of new scientific problems. He taught the necessity of the method to his contemporaries and to his pupils in his, the first, English medical school. Abernethy and the great Sydenham, Hunter's pupils, recognized the intrinsic value of the logical principle, applied it in the interpretation of the medical problems of their day and in consequence won enduring fame. Jenner, another pupil of Hunter and of them all best known to the world, confirmed his own discoveries by the same means and eventually enunciated the principle of protective vaccination. It is to this "Hunterian Method" of reasoning and research, which is the basis of all enduring medical investigation in our day, that modern medical science rests on so secure a foundation. The importance of the inductive method of research to medical science can not be set forth too forcibly. Its tremendous significance first securely grasped by Hunter has since his day continuously appealed to all serious laboratory investigators and at the period of its introduction modern scientific medicine may be declared to have had its birth.

Rapid progress has marked the history of medical science since Hunter's day. Innumerable workers have contributed the result of their labor as opportunity offered. To the generation which has just ceased from labor the medical world owes the epoch-making discoveries of two earnest workers whose names have passed into history as those of men pre-eminently powerful in thought and fertile in productive power. Their names are prominently called to mind in this connection for the reason that medical science as it is known to-day is builded by the method of Hunter upon the result of their efforts. The one is Virchow, who gave the scientific world the doctrine of cellular integrity and who demonstrated that every living cell of the human body comes from a pre-existing living cell. The other is Pasteur, whose years of diligent research were finally rewarded by the discovery of the causes of fermentation and the bacteriological genesis of infectious disease.

Without detracting from the labors of innumerable other workers whose contributions to medical progress have been of inestimable value, these three pre-eminent investigators of the last century have been particularly selected for comment for

the reason that the whole system of scientific investigation in recent years depends upon the principles first enunciated by them. Their work can be considered the essential architectural elements in the modern medical edifice. Without them the whole system falls into ruin.

The generation of men now drawing to a close owe most of medical progress to Hunter, to Virchow and Pasteur. The modern medical scholar builds upon the sure foundation laid by this triumvirate. The influence of these men has been predominant in shaping the course of every present-day medical investigator. Multitudinous and devoted have been the workers and so numerous the contributions of abundantly attested facts that there has resulted a vast and marvelous accumulation of detailed information. There has in consequence developed an evolutionary period of new ideas as to method and means of instruction, a necessity for the regrouping and reclassification of knowledge and a revolution in the art of medicine. The salient tendencies during the last decade along these lines may be thus grouped for consideration: the multiplication and growth of specialties in the practice of the art; clinical in contradistinction to didactic teaching in institutions of medical learning; laboratory elementary instruction and advanced research; pathological specialization; institutional development and elaboration of medical and surgical technique.

The possibility of the development of the human mind is circumscribed by individual limitations and by the general restriction of mental capacity. The necessity for a division of mental labor is imperative in recognition of these limiting qualities. The more extensive the knowledge to be acquired the more minute the divisions of labor must be. It seems commonplace to say that the primary groupings of human endeavor pertaining to the several professions, the mechanical arts and the manifold sciences are due to the necessary mental restrictions imposed upon the individual. Not so many years ago a single individual could acquire all the known facts of medical knowledge. It is quite different to-day. So tremendous has the volume of medical information grown that division and even subdivision of the constituent parts of the human body is now essential to the acquisition of all knowledge in each of the several groups. This is specialization of knowledge and specialists are a growing neces-

sity in medicine. Not only the science but the art of medicine justifies their existence and further progress will undoubtedly augment the number of specialized groups.

To train every physical sense of the aspiring candidate for a medical license to the fullest degree is the end sought in modern medical education. To accomplish this has necessitated the rearrangement and readjustment of methods of teaching. Not to tell a student but to have him develop his senses in finding out, has become the desideratum of professors in medical schools. To show and to prove as much of the science as opportunity offers and to tell the remainder has resulted in bringing the student to the bedside of the sick. In all the applied branches of the healing art the tendency has been away from the college lecture room to the wards of the hospital. The recital of dreary facts has made way for the vitalizing results of demonstration. The consequence has been an enlarged sphere of usefulness for men trained thereby.

That which the hospital teaching has done for the practical branches of medical science, the laboratory has accomplished for the preliminary subjects of instruction in medical colleges. The method of procedure is the same in each. To show the object, to develop the powers of observation, to tell only the otherwise unknowable, applies to the one as to the other. Chemistry has for years supplemented the series of didactic lectures with laboratory experiences. Anatomy has from almost the beginning followed the same plan, only in the process of evolution former haphazard ventures in the dissecting room have grown into a systematized sequence of instruction in the anatomical laboratory. The study of physiology has more recently been vitalized by the introduction of practical courses in experimental physiology and physiological chemistry. So thoroughly recognized has become the benefits of laboratory investigation that opportunity for it is being extended beyond simply undergraduate instruction. The laboratory door under favoring conditions is being opened to trained original workers with the result that the boundaries of the unknown are growing more and more circumscribed to the enduring benefit of the human race. More noteworthy even than this postgraduate opportunity, is the fact that the laboratory is outgrowing the boundaries of the college and university. Independent institutions specialized for expert research have recently

marked the progress of medicine. The wide sphere of usefulness of endowed organizations of the class of the Rockefeller Institution, gladdens the heart of every lover of his kind.

The clinician or hospital investigator, like every other scientist, has his work circumscribed by the limitations of time and mental quality. He must depend therefore upon the co-operation of others for a part of that ample degree of knowledge which shall enable him to offer the fullest measure of relief to the disabled human beings in his care. There has thus developed another variety of specialist, another kind of laboratory worker, whose field of experimentation is among the elements of disease. These, the pathologists, are the most recent of all medical specialists and by no means the least important. Teaching the student the methods of examination of the blood, the sputum, the waste products of the body, the malignant growths and the bacteria, they go further and become one of the most valuable aids to the bedside examiner in the determination of the causes of disease. Pathologists have played a conspicuous part in the development of medical science during the last decade. Working also independently of the hospitals and schools they have given the world knowledge of some brilliant discoveries. Viewed from the standpoint of life-saving properties their most conspicuous contribution has been the discovery of antitoxin. The discovery by them of the agglutinating power of blood serums emphatically manifests the depths of their research. No specialty has contributed more to the advance of medicine than pathology and none exists for which there is greater justification.

It follows of necessity that if the student, in the broad sense of that term, is to learn at the bedside of the hospital patient, if the college is to give adequate laboratory instruction and if the causes of disease must be sought by special methods, that the hospital, the college and the pathological buildings must develop and keep pace with the demands of the time. The institutional development of the hospital to primarily provide the latest means for the differentiation and treatment of disease and to secondarily furnish adequate instruction to medical men; of the college to respond to the ever-increasing demand for practical laboratory experience and of the pathological institution to inquire into the causes of disease, have been among the conspicuous tendencies of modern medical progress.

The last of the series of striking modern advances in medicine to claim attention in this essay is the improvement in medical and surgical technique. Technique is a new word in the literature of medicine. It is however a most significant one. In so far as it implies approximate perfection and unusual skill in the art, it is not misapplied. Accuracy and thoroughness of thought and action both in the differentiation of diseases and the application of remedial measures demand the closest attention to detail. The modern doctor of medicine considers worthy of attention all agencies of whatever character which point the way to a successful termination of disease. The educated senses of touch and sight and hearing, the stethoscope, the sphygmograph, the reflexes, the signs, the surgical cleanliness, the sequence of events in surgical operations, the purity of agents, the tactile skill begotten of experience, contribute to that manifest essential of success in the modern practice of the healing art—medical and surgical technique.

In conclusion the inquiry is naturally made as to what the teaching colleges are doing to keep pace with all the exacting tendencies in modern medicine. Our concern at this time is with the medical department of Union University. With no impairment of her usefulness the Albany Medical College has met every requirement of a progressive age. Enterprise, energy, sacrifice, have made the name enviable among medical institutions and high scholarship an honor to the university. Among the fifty instructors connected with the medical department are found able representatives of all the medical specialties, the leading surgeons, physicians and professors of special subjects in the locality of the college. In clinical teaching a wise, progressive, thorough system has been evolved. Available for clinical purposes is the recently erected Albany Hospital, a model of hospital construction and teaching administration. St. Peter's and the Child's Hospitals are also suitably arranged for the purpose of instruction, and are so used. In laboratories, the college has well equipped departments in chemistry, anatomy and physiology. The laboratory of physiological chemistry, recently opened, is new and a model in every way. In pathology the college is especially fortunate in being able to work in harmony with Bender Hygienic Laboratory. There is no better furnished insti-

tution of its kind to do the work which comes within the sphere of its usefulness.

The Albany Medical College has had an enviable history since its birth in 1838. Great names have been found associated with its teaching functions. Its aspirations have been for the best, its achievements commendable, scholarly and honorable. The past is an inspiration for present and future exertion to accomplish excellent results. For its present meritorious reputation there is abundant cause for congratulation. For adequate and fitting compensation for honorable endeavor no other reward is expected or desired beyond the consciousness of unselfish contributions to the sublime cause of human progress.

Editorial

The first stimulus to an inquiry into the human frame arose, naturally, in medicine. As it was usually practiced by the priests in the older civilizations, we may assume that these highest representatives of the education of the time had already acquired a certain amount of anatomical knowledge two thousand years before Christ, or even earlier. We do not, however, find more exact observations, founded on the dissection of mammals, and applied, by analogy to the human frame, until we come to the Greek scientists of the sixth and fifth centuries before Christ—Empedocles (of Agrigentum) and Democritus (of Abdera), and especially the most famous physician of antiquity, Hippocrates (of Cos). It was from these and other sources that the great Aristotle, the renowned "father of natural history," equally comprehensive as investigator and philosopher, derived his first knowledge. After him only one anatomist of any consequence is found in antiquity, the Greek physician Claudius Galenus (of Pergamus), who developed a wealthy practice in Rome in the second century after Christ, under the Emperor Marcus Aurelius. All these ancient anatomists acquired their knowledge, as a rule, not by the dissection of the human body itself—which was then sternly forbidden—but by a study of the bodies of the animals which most closely resembled man, especially the apes; they were all, indeed, comparative anatomists.

**The Antiquity
of Medicine**

To the passion for exactness in medical practice, bred of the desire to rescue the science from the doubt of centuries, must be attributed the current passion for medical history. It is well appreciated that thorough knowledge can only come with an understanding from its beginning of any fact, and great energy is now displayed in tracing the incidents and beliefs of medicine to their source. The student who undertakes this line of investigation is surprised at the wealth of information opened to his grasp, and his wonder grows as the intimate relation of medical thought with human life is revealed in the dim mists of antiquity. That this most agreeable means of diversion has taken a firm hold upon the profession is revealed in the rapid increase of historical literature. In this country the publication of a special journal of elaborate and ornate form, the *Medical Library and Historical Journal*, has been undertaken, and this in three years of existence, has had ready acceptance and encouragement.

Modern medical knowledge is too generally regarded as of recent growth. The various branches of medical investigation are rarely traced to an origin of more than a century ago. But it has been found that the ancients possessed certain analogous information, which makes comparison of the two civilizations inevitable.

Now comes the voice of Egypt, and back we go, not hundreds, but thousands of years, to a period of grandeur and culture, not unreasonably regarded as even greater than our own. It appears that the work of a physician was mentioned as far back as the Fifth Dynasty, not less than three thousand years before Christ, and in the Ebers Papyrus (about 1550 B. C.) are many interesting discussions of the methods of healing.

An anonymous writer in *The Sphinx*, a periodical published at Cairo, for a copy of which the ANNALS is indebted to Dr. Cyrus S. Merrill, reviews this interesting topic, and cites some of the facts of the "Land of Prehistory," which seem "to show that in medical Art and Science Egypt was, in the very earliest times, a leader and a guide." And he carries his investigations still further along the evolutionary line by citing Pliny's description of the medical practice of animals, as that "The Hippopotamus finding himself plethoric goes out on the banks of the Nile and there searches out for a sharp pointed reed

which he runs into a vein in his leg, and having thus got rid of a sufficient quantity of blood closes the wound with clay." Furthermore, this writer recalls that "The use of emetics is said to have been learnt from the dog, of hellebore from the goat, and Aristotle, among other writers, says that stags healed their wounds by the use of Dittany. And there are evidences of a more scientific practice of medicine in prehistoric times, for among the ruins of the Swiss Lake Dwellings we find cakes made of poppy seeds, showing that opium was known and used as a drug by those who dwelt there, and it is now generally known that the operation of trephining was frequently performed in the stone age, sometimes for the cure of disease, sometimes doubtless as a religious rite rendering those who underwent it proof against evil spirits, sometimes, too, to allow the spirit to escape from the body.

"The first practitioners of scientific medicine, and especially those in Egypt, were Priests, and even Egyptian Kings approved of the examination of the Dead. A College of Physicians was in existence in Egypt in the eleventh century before Christ, its members were paid by the public and the nature and extent of their practice was regulated by law. They belonged to the sacerdotal caste and women were allowed to practice. As state servants they treated the poor gratuitously but saw them only in consultation in their rooms. They were allowed to take fees from the rich whom they attended. Medical science had attained so high a development in those days that its art was specialised and physicians were allowed to practice only their own branch of medicine.

"Material is still extant on which to build in Egypt and in India a system of medicine existing thousands of years ago. Prescriptions have been handed down to us as they were used for diseases of the eyes and for bloody flux. The mention of hospitals is rare in ancient records and it is difficult to say what place they occupied in remote ages. We must hesitate to accept the statement of Pinel that asylums existed in the temples of Saturn, but it seems clear that there were medical schools in connection with temples from the dawn of civilisation, that Priests were the depositaries of medical knowledge, and that the sick and infirm went for advice to the temples or slept beneath some healing shrine. The Ebers Papyrus, composed about 1550-1547 B.C., more complete in its information

than any other, says that the ancient Greeks as well as the Egyptians were in the habit of laying their sick in the temples. This in Egypt was done especially in the temples of Serapis, in the renowned Serapeum of Canopus near Alexandria, and at Memphis. It records that when Alexander was sick several of his friends slept in the Serapeum at Alexandria that they might learn from the Deity whether to take him to the temple or not—and the voice of the God said No. Ancient inscriptions and Papyri are almost silent on the subject, but there seems little doubt that there was at least a clinique at Heliopolis situated, the Ebers Papyrus says, in a building called 'The Great Hall of Heliopolis,' and it is known that there was also a medical faculty at Sais. Seth and Horus, brothers who wounded each other in battle, were taken to Heliopolis and Isis was the healing Goddess in their restoration. The chief Priest, called Urme, was probably the head of the faculty, and one of them, named Chey, (Papyrus Ebers) was owner of a renowned eye ointment. The chief Priest of Sais called Ursuanen, the great or head doctor, was President of the Medical Faculty. Schools were connected with most temples, and cliniques which probably passed over to the Arabs who, like the Egyptians, erected schools and hospitals in connection with the mosques, with many. Ancient Egyptian shrines, which were certainly seats of medical knowledge where the sick went for advice, and which appear to have served as hospitals have been excavated. The great temple of Dendara contains a series of rooms which have been examined. Over one door stands the word 'Laboratory,' over another 'Birth House,' and it is hard to say whether this means that a lying-in institution existed there some fifteen centuries before Christ or not. The temples of Memphis and Thebes sheltered the sick and in the temples books of Hermes, works on medicine, were stored. Before medical art existed in Babylon and Egypt the sick were laid in the path of passers-by to get the benefit of their experience, and, in the first named place, there was a law making this help compulsory. This practice spread from East to West and it may have been known among the Jews—certain incidents told in the life of Christ undoubtedly lend color to the belief that it was.

"Alexandria was, in very early times an important medical center. When Alexander the Great's dominions were divided

Egypt passed into the hands of the Ptolemies. They perpetuated existing institutions in Thebes, Memphis and Heliopolis, and founded the Gymnasium, Serapeum, Museum and Libraries at Alexandria, to the latter of which an outpatient room was attached. Physicians trained there had a high reputation and their services were valued in countries far outside Egypt.

“Among the tombs clustering round the Pyramid of Sakarah there stands one, small and unpretending, but having still a beautiful and very perfect inscription, which shows it to be the burial place of Sekhet'enanch, chief Physician to Pharaoh Sahura of the fifth dynasty. It describes how the Physician had healed the King's 'Nostrils' and 'wishes him long life in Holiness.' 'Then the chief Physician spoke before Pharaoh:' 'May it please thy soul beloved of Ra, that there be given me a limestone slab like a door for this my tomb in the west-land.' 'Then the King commanded and they brought him two stone slabs like a double door from the quarry Ro'an, and they were set up in the court of his Palace, Chaurert-Sahura. The chief taskmaster made the temple mason inscribe them as for the King himself. The Court visited them daily. His Majesty ordered the inscription to be done over with blue stone.' This is apparently the first mention of a Physician in history, for the fifth dynasty is not of a later date than 3000 B.C. and thus the interval between Sekhet'enanch and Hippocrates is not less than the period that has elapsed between the 'Father of Medicine' and our own times.

“An interesting relic of Egyptian medicine is the Family Medicine Chest of Pharaoh Mentu-Hotep of the eleventh dynasty, about 2500 B.C. It contains six vases, one of alabaster and five of serpentine with dried remnants of drugs, two spoons, a piece of linen cloth, and some roots enclosed in a basket of straw work, the whole contained in a wooden chest found in the Queen's tomb and now in the Berlin Museum.

“One of the chief authorities on this interesting subject is the Ebers Papyrus already referred to, which its discoverer claims to be not merely the first known medical document but the oldest complete book in existence. It was written about 1550 B.C., sometime before the Exodus, and on it are marginal notes of its owner recording his approval of many of the prescriptions it contains. But it is not only a collection of pre-

scriptions, it contains dissertations on anatomy and diagnosis, the most important of which is a treatise on the heart written by Ebsect. Clement of Alexandria says that the knowledge of the Egyptians was contained in forty-two sacred books attributed to the God Hermes-Thoth, of which the last six were medical, dealing with anatomy, diseases, instruments, drugs, affections of the eye and diseases of women, and Ebers is of opinion that his Papyrus is really the 'Hermetic' book on drugs, but there is intrinsic evidence in the nature of the Papyrus itself to favor the idea that it is rather a compilation than a sacred book. There are other Medical Papyri, though perhaps none of so much importance as this of Ebers. The chief among them is the papyrus of Berlin of the fourteenth century B.C. It was discovered rolled up in a case under the feet of Anubis, in a town called Sechem. It contains numerous prescriptions, many of them enemata, a form of medicine generally believed to have been first used by the Egyptians. The writers on Egyptian medicine numbered among them one Royal Author, Nachepsus of Sais, Grandfather of the Pharaoh of the Bible. He is credited with the discovery of the medicinal virtues of 'Green Jasper,' a stone which, when engraved with a 'dragon of rays' and hung around the neck, was supposed to be a certain remedy for diseases of digestion. Some fine specimens of these charms are to be found among the Gnostic gems of the British Museum, and the Greek inscriptions call the dragon 'Chnoumis' the 'Destroyer of Demons.' So medicine flourished in the very early days of Egyptian history. More than one thousand years before Hippocrates this wonderful people had a knowledge of anatomy and physiology equal to that of the 'Father of Medicine' himself, and they possessed a varied 'Materia Medica' containing both vegetable and mineral remedies. But there came to them a period of stagnation in which no progress was made and in the sixth century B.C., Egyptian physicians having failed to reduce a dislocation of the foot of King Darius, which was eventually successfully treated by Greeks, narrowly escaped with their lives."

The anonymous writer who has given this most interesting synopsis of almost geological periods very properly infers and concludes that "There is nothing new under the sun."

Harrison E.
Webster

The death of Dr. Webster recalls Union College as it was a generation ago. Then in his prime, Dr. Webster exerted a strong personal influence over the students of both the academic and medical departments. Later, as president of the University, he carried the magnetism of his method of thought and of his friendship into his administration, which was unfortunately broken by his loss of health. There are many physicians who sat under him when a lecturer in the Albany Medical College to recall with affection their association with him. This appreciation of Dr. Webster's character, so tenderly expressed in the *Union University Quarterly*, is reproduced in this issue of the ANNALS as a slight token of the esteem in which he was held by his colleagues and pupils in this department of the University.

Little Biographies

IX. ANDREAS VESALIUS.

ANDREAS VESALIUS, father of descriptive anatomy, was born at Brussels, the last day of the year, 1514. His was the fourth generation of influential physicians to be intimately connected with the continental courts. His father held the position of apothecary to the Emperor Maximilian, Charles V. At a somewhat early age the precocious youth entered the University of Louvain, electing a course in philosophy, the study of which merely served to whet his eager appetite for the science of his life. Turning to medicine he studied at Montpellier and at Paris; at the latter university the celebrated Tagault interested himself in the brilliant young pupil and secured for him as tutor, Sylvius, at that time professor of anatomy in the institution. The relation between tutor and scholar becoming somewhat strained on account of the intense jealousy aroused in Sylvius by the rapid advance of his pupil, Vesalius receiving his degree returned to Louvain. His fame as anatomist was in the ascendant. He was loved, admired but feared since in his zeal to secure material for his profession, he was detected stealing the remains of a malefactor hanging on the gibbet just outside the town.

From Louvain he traveled to Italy, serving as army surgeon and taking active part in the campaigns in the low countries and in France. Finally, at the call from the faculty of the celebrated University of Padua, he accepted the professorship of physics and settled there in his twenty-fourth year—1538. It was at Padua, that the brilliant anatomist collected the material which led finally to his magnum opus—*de humani corporis fabrica*—appearing in 1543. The work was printed at Basle by John Oporinus. The plates, approaching which nothing had been seen before, were wonders of skill and art. Even the great Titian, a close friend of Vesalius, was at one time charged with being the author of them; but it has finally been made most probable that the drawings came from the hand of John Stephen de Calcar, who had become such an apt pupil of the master artist that even now his paintings are confused with those of Titian. Upon the whole the marvellous accuracy and detail of the plates was accompanied by a good but somewhat commonplace description. In reading one feels the lack of inspiration which would accompany new thought. The wonder grows that the author could have disclosed so much and not discovered more. He described the whole circulation, heart, arteries, veins and valves, but they explained nothing to him, they possessed no function in his eyes. Of the most notable plates, some of which have descended to this generation, may be mentioned that of the complete pulmonary circulation; the interior of the heart showing the valves; the base of the brain, from which, however, it is seen that the anatomist divided the cranial nerves into eleven pairs and possessed a defective knowledge of the relationship of the origin of these nerves to the medulla; the bones of the middle ear; and lastly an extremely accurate view of the larynx and trachea, indicating the branching off from the pneumogastric and return of the left recurrent laryngeal. The descriptive portion of the senses is less perfectly depicted. The lacteals and lymphatic systems, although discovered some years previous, received no notice at the hands of Vesalius.

The appearance of the book called forth anew the intense jealousy of Sylvius. In this he was joined in criticism by Eustachius, Driander and Riola. These savants instantly and viciously denied the splendor of the achievement, claiming that most of the work formed the simple reproduction of what Galen had originally performed. They denounced Vesalius for

not ascribing to Galen the credit of the work. Fallopius alone stood up for his teacher. Notwithstanding all this the fame of the author and his masterpiece spread. In England there appeared in 1545 an edition in Latin dedicated to Henry VIII, and a second edition in English dedicated to Edward VI. In 1554, Charles V. called Vesalius to his court as Archiaterus, and upon Charles abdicating in favor of his son Philip, the latter continued the great anatomist in the office. In 1559 Vesalius was sent by Philip to France to attend Henry II., who in the midst of the revels attendant upon the espousals of his daughter Elizabeth to Philip, and of his sister Margaret to the Duke of Savoy, had in a tilt in a tournament received the shaft of a broken lance in the right eye. When Vesalius arrived the king was dead.

Vesalius followed Philip to Spain in 1560. Here he succeeded in curing the injury to the head of the Emperor's son Carlos—a feat which made him famous and gave him a fashionable clientele of the crowned families of Europe. Another event added to his notoriety. D'Egmont, Count of Buren, lay very ill. Vesalius, as court physician, pronounced his illness fatal and predicted that life would not continue after a certain day and hour. The count accepted the decree and invited his friends to an antemortem feast. After dinner he presented gifts and bidding an everlasting farewell, like an obedient patient expired at the very moment named by Vesalius for his death.

At this point in his life the court physician was at the zenith of his eminence. Early in 1562, for some mysterious reason he suddenly left the court at Madrid and traveled to Venice via Perpignau. At this latter place, in order to save a small bribe at the Spanish customs, he was delayed ten days at a cost of fifty crowns.

From Venice he traveled to Cyprus, and from there to Jerusalem and the Holy Land. Of the many reasons advanced to explain his sudden departure, the following is the most accredited. Vesalius, believing a young Spanish nobleman to be dead, obtained leave to perform an autopsy. Upon opening up the chest cavity, he saw the heart beating. The parents learning of this, persisted in attempting to prosecute him for murder. The King intervened, however, and saved his life on the condition that to atone for his error, he should make a sacred pilgrimage.

In the latter part of the year, Fallopius, then but forty-one years of age, died at Padua, leaving vacant the first chair in

physic. The next year the Senate of Venice sent after Vesalius, asking him to return and assume the vacant chair. The message was received at Jerusalem and in the autumn of the following year he set sail from Joppa for Italy. A violent storm drove the vessel on the Ionian Islands, where it was wrecked on or near the Island of Zante. Here the great anatomist, stricken with cold and hunger, breathed his last, October 15, 1564. He was afterward buried in the Church of Our Lady in Zante.

His was a mind analytical and peculiarly fitted to unravel and expose the secrets of descriptive anatomy, but strangely lacking in the constructive and synthetic qualities necessary to the discovery of vital function as associated with anatomical structure.

HOLMES C. JACKSON.

Scientific Review

THE EFFECT OF THE X-RAYS ON LIVING TISSUES.

An enormous number of observations have been recorded of the use of the Röntgen rays and allied agents under almost every conceivable condition. In the vast literature which has accumulated there is much of little or no permanent value. Our ignorance of the nature of these so-called rays, the far reaching and often fanciful claims made for their value as therapeutic agents, the lack of any systematic correlation of the facts observed or any broad generalization which might serve as a working hypothesis have served to produce in many respects a veritable chaos of unrelated facts and records of oftentimes fruitless investigations. By both surgery and medicine, however, their use has been definitely established as a necessary and important aid. The diagnosis and treatment of injuries and diseases of bones, the detection of tumors and foreign bodies, and the treatment of certain skin diseases and new growths by the use of either Röntgen rays or radium have given to these agents certain well defined and well known values.

It is also true that carefully recorded facts have been observed relating to the direct and indirect effects of these rays on very many forms of living tissue, both animal and vegetable, and thus logical endeavor has been made to place our knowledge of their therapeutic effect on a scientific basis with definite reasons for

accomplishing definite ends by the use of a definitely calculable amount of a powerful agent.

I. *Effect upon the skin.* Stimulus to investigation in this field was undoubtedly first given by the early recognition of the influence of the rays in producing accidental burns on exposed surfaces of those working with or subjected to Röntgen or radium rays. Carl Beck divides these lesions of the skin into three degrees. The first is characterized by redness and slight pigmentation of the skin, infiltration of the cutis (effluvium capillorum) and a perceptible rise in temperature. Exfoliation may occur in small scales. Subjectively there is often an intense itching. A regressive metamorphosis or atrophy of the differentiated elements of the skin such as glands, hairs, and nails characterizes the chronic stage. Lesions of the second degree consist in the formation of blisters, the clear or yellowish contents of which raise the denser surface epithelium from the mucous stratum of the rete Malpighii. Tension is high and pain accordingly intense. After removal of the blisters the corium is exposed as a reddened surface. Escharotic destruction, variously termed dry gangrene, dry slough, white gangrene or necrosis, marks the third and gravest degree. The tissues become brownish black or greyish white in color and slowly slough leaving a granulating, indolent ulcer. The period of onset after exposure is generally, about two weeks. The chronic type produces the so-called terra-cotta-like hands. The integument is wrinkled, shrivelled, and partially cracked, the nails are horny and also cracked and the phalanges are so much thickened that there is tension on movement of the joints. Elasticity is lessened and sensibility increased. Effluvium capillorum is an invariable accompaniment. Beck believes these effects to come from impaired nutrition of cells, especially those of the blood vessels, which show thickening of the intima of the smaller vessels and narrowing of their calibre by a deposit of fibrous tissue in a reticular arrangement. The media and adventitia are usually also affected.

Newcomet believes no single form of degeneration is characteristic of X-rays and that the form of degeneration observed depends entirely on the tissues exposed and the method of application. He compares the effects to those of fever which produces granular and then fatty changes in the protoplasm, recovery depending upon the amount of damage done before the fever

subsides. Idiosyncrasy plays an important part. The least effect he describes as a reddening of the skin followed by slight tanning similar to sunburn, only deeper. In more severe forms the period of onset may be a few hours or a few months and in the meantime the patient complains of pain. A hyperaemia of the surface followed by a slough resembling that of a bad scald may occur. The slough appears easily removable, but in reality is adherent and comes away slowly. The base shows healthy granulations, but they in turn may also slough.

Scholtz in 1902 experimented on the skin of pigs and rabbits. He found that definite alterations did not appear in the skin till six or seven days after exposure to the rays and that about this time the hair began to fall out. In the epidermis the cells became swollen and oedematous, vacuoles appeared in their protoplasm and nuclei became clumped and shrunken. Mitoses were rarely present, division apparently occurring without karyokinesis. In the corium oedema was also noticeable and the collagen fibers were swollen and stained imperfectly; the elastin was affected, but not to the same extent. Connective tissue cells were swollen and their protoplasm became homogeneous and vacuolated. In short, a slow degeneration of the cells of the epidermis, hair follicles and glands occurred, affecting nuclei as well as cell protoplasm.

Codman states that he agrees with the balance of opinion which attributes these lesions to a primary action on the trophic nerves of the blood vessels and skin. The delay in the appearance of the lesions after exposure, their progressive character, and their failure to react to stimulating treatment are the strongest reasons for this view. The microscope shows occlusion of the smaller arterial branches not unlike that occurring in necrosis and inflammation due to other causes. The severe lesions are atrophic ulcers rather than burns.

Rollins explains rather fancifully this action on the blood vessels by assuming that X-light and radio-active substances produce ionization of the molecular complexes of the body. The greater effect on diseased than on normal tissues is due to the larger and less stable aggregations of molecules of the diseased tissue being more easily ionized than are those of the normal. In comparison he cites the large molecular complexes of the gelatin dry plate which are acted on when the smaller molecular group of the daguerrotype plate are not. As fluids

are continually passing in and out through the walls of the blood vessels it is conceivable that some of the ions produced by the action of the rays will be constantly carried by the currents through the cells of the walls of the vessels and their destructive action will there be more marked. These ions exist for some time after their production and may be carried considerable distances.

II. *Effect upon bacteria and other low forms of life.* One of the first and most natural hypotheses with respect to the beneficial action of the rays in the treatment of lupus vulgaris and other skin affections due to parasites was that they were bactericidal. This theory has not received much support. Freund and E. Schiff in 1900 concluded that direct discharges of invisible rays were capable of inhibiting the growth of, or killing bacterial cultures or bacteria suspended in liquid media.

Wolfenden and Forbes Ross found that it was impossible by any ordinary long exposure to kill growths of bacteria by X-rays. Instead of inhibiting the growth of tubercle bacilli the rays actually "stimulated them to excessive growth and only affected them adversely by attenuation from overgrowth." Experiments with cultures of *B. prodigiosus* gave similar results.

X-rays stimulate the germinations of seeds and fermentative processes and these effects are also produced in cultures of bacilli, the vegetable properties of which are stimulated to excessive growth while they are profoundly altered in their biologic and physiologic characters. An apparent death in cultures so treated, is due only to exhaustion of vitality from excessive proliferation since rest alone is sufficient to enable the organisms to again take on active growth.

Rieder's experiments showed that after even several hours of exposure to the Röntgen rays no death or inhibition of growth of bacteria could be observed. Abbe showed that radium kills *B. typhosus*, *B. cholerae* and *B. prodigiosus* when applied very closely (0.5 mm.) for twenty-four hours. Seeds produced stunted plants or failed to germinate. Young and growing cells proved most susceptible. Wallen concluded that prolonged exposure of vinegar worms or protozoa is fatal and that on growing plants there was a stimulating action, in fact overstimulation, for they grew faster but did not live as long as normal plants. Full grown plants were not affected.

Schaudinn found that X-rays killed one-fourth of *Amoebae*

princeps in exposed colonies. The following varieties were all killed: *Amoeba lucida*, *Pelomyxa palustris*, *Gromia oviformis*, *Actinosphaerium eichhorni*, *Chilomonas paramoecium*, *Cryptomonas ovata*, *Enzlena acus*, *Oxyrrilus marina* and *Spirostomum ambiguum*. Dunham's results were very similar. The *Chilomonas*, *Paramoecium aurelia*, *Paramoecium bursaria* and all forms of single cell life were killed. The Rotifers, *Arcella* and *Cryptomonas* were unaffected.

Bordier studied the effect of X-rays on the metamorphosis of the silkworm in its entire life cycle. The worms were taken on the day after birth and exposed to the rays at a distance of 98 cm., for a quarter of an hour each day. They became more active than normal. The developmental changes were retarded in the animals treated, taking 36 instead of 29 days as compared with the untreated worms, and the transformation came about in an abnormal manner. More of the crysalides died with haemorrhage from the mouth, and no wings were formed. There were less silk spun than usual.

III. *Effect upon diseased tissues.* Stewart assisted by Nickerson, Wilson and Man from a study of a squamous cell carcinoma of the hand exposed to X-rays concluded (1) that characteristic histological changes do occur; (2) the important early changes are fatty degeneration and vascularization of the epithelial pearls; (3) leucocytic infiltration and various degrees of degeneration.

Sequeira found two changes: (1) a destruction of the epithelial cell, the nucleus and protoplasm undergoing lysis and in some cells a definite fatty change; (2) a stimulation of the connective tissue to the formation of healthy scar tissue.

Walker observed fibromyxomatous degeneration occurring in a rodent ulcer. Beck found colloid change in an adeno-carcinoma. McCaw observed (1) necrosis of cells and often fatty degeneration. (2) A tendency to occlusion of the vessels by intimal thickening with entire absence of infiltration of polymorphonuclear leucocytes but with the accumulation of numerous lymphoid cells. Newcomet says that leucocytes come with over-stimulation by X-ray, but do not come where no reaction is observed. Unna denies that epithelioma ever undergo fatty change.

Pernet in a study of lupus vulgaris exposed to fourteen daily treatments of ten minutes with removal at the end of six months

describes a degeneration and disintegration of the fibrous elements of the corium in which the collagen is partly transformed into collastin and all the elastin is destroyed. Hair follicles and sebaceous glands had disappeared, while sweat glands showed degeneration and lymphoid cell infiltration. A large blood vessel showed thickened walls and in the corium there were numerous areas of fibrous change. Hodgson investigated radium and reported that its effects were very similar to those of the Röntgen rays.

Abbe applied a tube of radium in a case of carcinoma of the breast; (1) to the normal skin outside of the growth in several places, (2) on the growth itself, (3) within the growth; and then excised the entire breast. Examination showed (1) on the skin superficial necrosis of the cuticle; the longer the application, the deeper the devitalization; (2) leucocytic infiltration around the vessels and nerves; (3) a softening and necrosis of the central cells or nests in the cancer area beneath the tube; (4) where the radium was buried a complete destruction of the surrounding cells for a distance of one-fourth of an inch. Abbe concludes that the malignant cells which have escaped destruction or retrograde change show a striking quiescence which may mean that death of the vital force making the cell malignant has occurred.

Numerous instances of the development of squamous cell carcinoma in workers with X-rays have been reported. Three well authenticated instances have recently received notice. A worker in Edison's laboratory developed carcinoma of the hand from which he died. A physician of Buffalo was compelled to have both hands amputated. Dr. Blacker of England, who treated King Edward for rodent ulcer, developed a carcinoma of the back of his hand which metastasized so rapidly that radical operation was impossible.

Wallen concluded (1) that on superficial capillaries the effect is like that of an irritant producing vasodilation, which might account for the relief of pain in cases of deep seated malignant growths; (2) near the surface the effect on malignant growths is curative, the cure not necessarily being the result of necrosis; (3) on deep seated growths no microscopical change was to be found in either pathological or normal cell elements; (4) immediate increase of leucocytes in the blood.

Hodgson records that radium converts oxyhaemoglobin into

methaemoglobin and that red cells give up their haemoglobin more readily; that emulsin and trypsin are rendered more inert and vaccine is said to become useless.

Heineke had previously shown that the effect of the Röntgen rays on the blood forming organs, the bone marrow, spleen, lymph nodes and lymph follicles of the intestinal canal, is to cause a destruction of the lymphoid tissue, a disintegration of the cells of the splenic pulp and the bone marrow and finally an increase of the pigment in the spleen. He now ascribes similar effects on lymphoid tissue to radium. Within a few hours a disintegration of the nuclei of the lymphocytes took place in all organs exposed to the radium rays, the lymphoid tissue being attacked through the unbroken skin.

Edsall in studying the metabolism of leukaemic patients treated by the X-rays observed that in favorable cases treatment was followed by a remarkable increase in the excretion of nitrogen, uric acid, purin bases and phosphates, the diet remaining the same as before treatment. The tissue break down was increased nearly 100 per cent. Consequently, he concludes that (1) favorable cases for X-rays result from personal susceptibility to their influence; (2) concerning the processes stimulated and accelerated by the X-ray, it is highly probable that the action is chiefly an autolysis.

Blauel says that the cells which are physiologically less resistant are the first to succumb to the action of radium. The epithelium of rabbit's kidneys was the first to display evidences of injury, and in human carcinoma and sarcoma, the specific tumor cells. These findings corroborate Werner's suggestion that the action of radium is an intoxication with the products of the destruction of lecithin, as the epithelial and tumor cells are peculiarly rich in lecithin.

Schaper exposed ova and embryos of frogs and other animals to rays and emanations of radium. It was found that the effect of the agent was to inhibit cell division as well as the embryonal differentiation and growth, and that regenerative processes were similarly affected.

Van Allen found that in cases of men treated over the perineum by X-rays the spermatozoa disappeared from the spermatic fluid. Some of these cases were examined a year after treatments had ceased and no spermatozoa could be found.

Schwarz exposed a hen's egg to radium rays for from forty-

four to one hundred and forty-four hours. He found produced, in the sense of a dry distillation, a decomposition of albuminoids with no marked changes in the native albumins. The organic pigment lutein, a lipochrome in the yolk, was decolorized. An important observation was that lecithin was decomposed. This substance, allied to the fats, contains nitrogen in the group cholin, which is bound to the phosphoric acid constituent. Its decomposition takes place with the addition of water and results in the formation of stearic acid, glycerophosphoric acid and cholin, which last splits off trimethylamin. According to Verworm lecithin is a splitting product of proteid. It is a necessary constituent of all living cells, being united in some unknown way with the proteids of the protoplasm. According to Hoppe-Seyler the presence of lecithin in large quantities in developing cells, or in those capable of development, as in the yolk of the egg, spermatozoa, colorless red blood cells, rapidly growing pathological growths and in many seeds and rapidly growing parts of plants, indicates that lecithin bears a certain relationship to the metabolic events of cellular development. The influence of radium in decomposing lecithin would seem to explain the peculiar effects wrought by this substance in the cutaneous and adjacent tissues. The continual exfoliation and regeneration of the epidermis requires the presence of a considerable quantity of lecithin in accordance with the rule that this substance is found in largest amounts in those tissues undergoing active development. The necrotic and inflammatory changes in the skin produced by radium can therefore be explained upon the basis of the loss of lecithin through decomposition. The action of the Röntgen rays in retarding or arresting the growth of carcinoma or lupus of the skin would therefore be accounted for by the fact that the lecithin, which is abundant in all neoplasms and evidently plays an important role in their growth and development, is destroyed by prolonged exposures to these radiations.

CONCLUSIONS.

(1) X-rays by long continued exposure or in susceptible subjects produce degenerations and finally necrosis in integumental tissues.

(2) Ordinary exposures have no influence on bacterial or protozoal life. Long exposures inhibit their growth.

(3) All protoplasmic activity is in some unexplained way inhibited or destroyed by continued action; highly specialized or growing cells are more easily affected.

(4) This action may be due to a breaking up of the lecithin of the cells thus removing a constituent which is necessary to metabolism.

H. E. ROBERTSON.

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 November, 1905.

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH—CITY OF ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, JUNE, 1906.

Deaths.

	1902	1903	1904	1905	1906
Consumption	13	12	19	15	17
Typhoid fever.....	2	0	2	1	1
Scarlet fever.....	0	0	0	0	1
Measles	0	2	0	2	0
Whooping-cough	0	2	0	0	1
Diphtheria and croup.....	0	2	0	2	11
Grippe	0	2	0	1	1
Pneumonia	3	4	4	2	6
Broncho-pneumonia	4	3	2	2	4

	1902	1903	1904	1905	1906
Bright's disease.....	5	10	19	14	10
Apoplexy	8	5	5	5	4
Cancer	6	9	12	8	5
Accidents and violence.....	6	7	8	7	6
Seventy years and over.....	19	15	18	18	26
Deaths under one year.....	13	17	10	13	15
Total deaths	102	119	118	109	137
Death rate.....	12.40	14.47	14.34	11.93	16.60
Death rate less non-residents....	.....	.....	12.77	10.51	15.20

Deaths in Institutions.

	1902		1903		1904		1905		1906		
	Resi- dent	Non- resi- dent	Resi- dent	Non- resi- dent	Resi- dent	Non- resi- dent	Resi- dent	Non- resi- dent	Resi- dent	Non- resi- dent	
Albany Hospital	11	4	6	4	12	7	3	6	10	7	
Albany County Jail.	0	0	0	0	0	0	0	1	0	0	
Albany Orphan Asylum....	0	0	0	0	0	0	1	0	1	0	
County House	1	1	0	5	2	2	1	0	4	0	
Homeopathic Hospital	2	2	2	1	0	2	2	1	1	0	
Hospital for Incurables...	1	1	0	1	0	0	0	0	1	0	
House of Shelter.....	0	0	1	0	0	0	0	0	0	0	
House of Good Shepherd..	0	0	0	0	0	0	1	0	0	0	
Home for Friendless.....	0	0	0	0	0	0	1	1	2	0	
Home for Aged Men.....	0	0	0	0	0	0	0	0	1	0	
Little Sisters of the Poor..	0	0	0	0	1	0	0	0	0	0	
Public places	0	1	0	0	3	0	1	2	2	0	
St. Francis De Sayles Or- phan Asylum	0	0	3	0	0	0	0	0	0	0	
St. Margaret's House.....	3	1	0	0	0	0	2	0	2	0	
St. Peter's Hospital.....	1	2	0	0	2	2	4	2	7	3	
Marriages											102
Births at term.....											95
Still births											6
Premature births											7

BUREAU OF CONTAGIOUS DISEASE.

	1902	1903	1904	1905	1906
Typhoid fever	4	2	4	4	1
Scarlet Fever	14	5	26	6	17
Diphtheria and croup.....	22	11	7	17	47
Chickenpox	38	4	1	1	4
Measles	25	118	6	32	2
Whooping-cough	0	0	0	3	1
Consumption	1	1	1	0	2
Total	104	141	45	63	74

CONTAGIOUS DISEASE IN RELATION TO PUBLIC SCHOOLS.

	Reported		Deaths	
	D.	S. F.	D.	S. F.
Public School No. 1.....	5	1	6	....
Public School No. 2.....	1	....	1	....
Public School No. 6.....	....	1	....	....
Public School No. 8.....	1	....	....	....
Public School No. 14.....	1	....	....	....
Public School No. 15.....	1	....	1	....
Public School No. 21.....	....	2	....	....

NUMBER OF DAYS QUARANTINE FOR DIPHTHERIA.

Longest 20 Shortest 5 Average 16 $\frac{1}{4}$

NUMBER OF DAYS QUARANTINE FOR SCARLET FEVER.

Longest 47 Shortest 12 Average 27 $\frac{11}{13}$

FUMIGATIONS.

Houses 56 Rooms 119

ANTITOXIN.

Cases of diphtheria reported..... 47
 Cases of diphtheria in which antitoxin was used..... 45
 Cases in which antitoxin was not used..... 2
 Deaths after use of antitoxin..... 9

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

In the Bureau of Plumbing, Drainage and Ventilation there were two hundred fifteen inspections made of which one hundred fifty-four were of old buildings and sixty-one of new. There were fifty-four iron drains laid, twenty-nine connections to street sewers, twenty-nine tile drains, twenty-nine cellar drains, six urinals, thirty-eight cesspools, one hundred twenty-seven wash basins, seventy-two sinks, ninety-three bath tubs, thirty-eight wash trays, fifteen trap hoppers in yard, and one hundred sixty-eight. There were one hundred seventy-one permits issued, of which one hundred forty-nine were for plumbing and twenty-two for building purposes. There were twenty-four plans submitted, of which twelve were of old buildings and twelve for new buildings. Three houses tested on complaint with blue, red test and there were thirteen water tests made. There were thirty-two houses examined on complaint and fifty-four reinspections. Seventeen complaints were found to be valid and fifteen without cause.

BUREAU OF CONTAGIOUS DISEASE.

CASES REPORTED.

	1902	1903	1904	1905	1906
Typhoid fever	9	3	4	8	5
Scarlet fever	4	7	7	0	4
Diphtheria and croup.....	16	13	8	6	29
Chickenpox	4	1	0	0	4
Measles	7	38	1	4	10
Whooping-cough	0	0	0	0	7
Consumption	0	1	2	2	2
Total	<u>40</u>	<u>63</u>	<u>22</u>	<u>20</u>	<u>61</u>

CONTAGIOUS DISEASE IN RELATION TO PUBLIC SCHOOLS.

NONE REPORTED.

NUMBER OF DAYS QUARANTINE FOR DIPHTHERIA.

Longest..... 47 Shortest..... 6 Average..... $20\frac{1}{2}$

NUMBER OF DAYS QUARANTINE FOR SCARLET FEVER.

Longest..... 37 Shortest..... 23 Average..... $30\frac{2}{4}$

FUMIGATIONS.

Houses 56 Rooms 89

ANTITOXIN.

Cases of diphtheria reported..... 29
 Cases in which antitoxin was used..... 23
 Cases in which antitoxin was not used..... 6
 Deaths after use of antitoxin..... 1

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

In the Bureau of Plumbing, Drainage and Ventilation there were one hundred eighty-eight inspections made of which one hundred nineteen were of old buildings and sixty-nine of new buildings. There were fifty-seven iron drains laid, twenty-three connections with street sewers, twenty-six tile drains, eight urinals, twenty-seven cesspools, forty-nine sinks, fifty-six wash basins, thirty-nine bath tubs, thirty-three wash trays, three trap hoppers in yard, eighty-seven tank closets, two slop hoppers. There were one hundred thirty-eight permits issued of which one hundred were for plumbing and thirty-eight for building purposes. There were twenty-six plans submitted of which twelve were of old buildings and thirteen for new buildings. There were five houses tested on complaint, one with blue, red and four with peppermint test. There were twelve water tests. Twenty-six houses examined on complaint and forty-three re-inspections. Seventeen complaints were found valid and nine without cause.

Society Proceedings

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

Memorial Meeting—Harriet A. Woodward.

A special meeting of the Medical Society of the County of Albany was held in the library of the Albany Medical College, Monday, July 30, 1906, at 5 o'clock in the afternoon.

The President stated that the meeting had been called in order to take action on the death of Dr. Harriet A. Woodward, a member of the Society.

The President said: "Dr. Harriet A. Woodward graduated in medicine from Syracuse University in 1875, and coming to Albany, joined the Medical Society of the County of Albany in 1876, since which time she has been a member in good standing.

"She faithfully performed all the duties of her profession and took upon herself cheerfully all the obligations devolving upon her in the field which she selected for the practice of medicine. It is in order to show a just appreciation of her faithful, conscientious work that this meeting has been called. The chair has appointed the following committee to draw up resolutions as a memorial of Dr. Harriet A. Woodward."

The President named the following committee: Drs. Curtis, Vander Veer, Ward, Steenberg and Craig.

Dr. Curtis in behalf of the committee read the following memorial:

MEMORIAL OF DR. HARRIET A. WOODWARD

The death of Dr. Harriet A. Woodward of Albany removes from our list of members one who has been of our membership for thirty years, and who, in a quiet and unobtrusive but always loyal and ethical way, has lived and labored among us. Often the quiet and earnest life leaves a larger impress than one that forces more attention. Dr. Woodward has been an earnest disciple of medicine, she has been devoted to the best professional interests and has done her work in a way that has commanded the respect of all of us who have come in contact with her. We have always found her self-respecting, interested in the duties of her life, pursuing her calling with the conscientiousness of what was implied by and went with the title of physician.

Most of the members of the committee appointed to give expression to the sentiments of the Society on this occasion became members about the time, or shortly before, Dr. Woodward applied for membership. That was in 1876. The year before Dr. Mary Du Bois had been proposed for membership and elected, and for many years these two were the only women physicians in the Society. Albany has had but few women members of the profession, the reason for which it is difficult to see, for

they have all been most worthy of their place among our number. We can recall that at the time of these earliest applications for membership there was some discussion of the propriety of their admission. The question was, of course, only raised by certain ones who had never come in contact with women in medicine. They were most earnestly welcomed by most of our members and were always accorded their rightful place among us. But thirty years ago outside the large cities there were few women physicians. Indeed, one of the conspicuous features of the last quarter of the 19th century increasing in the 20th, has been the pressing forward of women to a place in the world's work. Women have always cared for the sick and this tenderest ministry of the sick room has been almost exclusively theirs; and there is no reason why, with amplest propriety, it should not rightfully be theirs to take the responsible place of the physician as well as the subordinate one of nurse, in much that goes to make medical practice.

Both of these two pioneer women in Albany medicine worked here in this city side by side with us, and both of them several years ago, retired from the active pursuit of their professional work. They have been entitled to, and have always received, the respect and regard of all members of our allied association.

Dr. Woodward was of retiring nature and modest in her claims for attention and position. She was for years a very constant attendant on our meetings and it was always a pleasure to meet her and to receive her greeting. She did not have a strong physique and her work must have been hampered to a degree by lack of it. But as we have met her in her work, she has shown good professional attainment, and good, careful judgment and discrimination. She had too, as most women physicians do, a loyal love for her professional work, consciousness of its obligation and devotion to the subjects of her care, even to a more sensitive degree than men are accustomed to show. It would be well if medical men had a certain degree of womanliness in their work.

She was a native of Schuyler county, in this State, having been born and spent her early life in Hector in that county. She had her medical training at the Medical Department of Syracuse University and graduated in 1875. She joined this Society from Greenbush, now Rensselaer, but soon came over to Albany, where until recent time she spent her life. About four years ago she moved to Round Lake and there ended her life, July 25, 1906.

We have missed her cheerful presence from our meetings in these later years and shall cherish her memory with unmarred satisfaction. Your committee requests that a minute of this be made on the Society records.

B. U. STEENBERG,
F. C. CURTIS,
A. VANDER VEER,
S. B. WARD,
J. D. CRAIG,

Committee.

Dr. J. N. VANDER VEER moved that the resolutions be adopted, that they be spread upon the minutes of the Society and published in the ANNALS, and that a copy be sent to the members of Dr. Woodward's family. The motion was carried.

Upon motion of Dr. Curtis the Society adjourned.

ARTHUR T. LAIRD, *Secretary.*

GEORGE GUSTAV LEMPE, *President.*

Memorial Meeting—James E. Smith.

A special meeting of the Medical Society of the County of Albany was held at the Albany Medical College, Monday afternoon, August 20th at 5:30 o'clock.

The President stated that the meeting had been called in order to take action on the death of Dr. James E. Smith, a member of the Society. Dr. Smith, he said, had graduated from the Albany Medical College in 1889 and had joined the Society in 1890. He was a kind and generous friend, a physician and a patriot. In order to express in a fitting way the sentiments of the Society with regard to his untimely death, the President had appointed Drs. Giffen (chairman), Beilby, Holding, Macdonald and E. A. Vander Veer a committee to draw up suitable resolutions.

The following resolutions were then read:

"It is with feelings of profound regret that we, the members of the Medical Society of the County of Albany, record the death of our esteemed fellow worker James E. Smith, M. D., for a number of years a practising physician in this city.

"Dr. James E. Smith was a graduate of the Albany Medical College of the class of 1889, and has been a member of the Medical Society of the County of Albany in good standing since October 14th, 1890.

"*Resolved*, That inasmuch as in the wise dispensation of Providence, our late colleague, Dr. James E. Smith, has passed to his eternal rest, that we, the members of the Medical Society of the County of Albany, herewith express our sorrow at his early death;

"*Resolved*, That we, the members of the Medical Society of the County of Albany, convey to the parents of the late James E. Smith, our heartfelt sympathy and commend them to the 'Father of Mercies and the God of all comfort,' in this time of sorrow and bereavement.

"JOHN GIFFEN, *Chairman,*

"GEO. E. BEILBY,

"ARTHUR F. HOLDING,

"W. G. MACDONALD,

"E. A. VANDER VEER."

Dr. E. A. VANDER VEER moved that the report of the committee be accepted, and that a copy of the resolutions be sent to the parents of Dr. Smith and that a copy be sent to the ANNALS for publication.

Motion was carried.

On motion of Dr. D. H. COOK, the meeting was adjourned.

A. T. LAIRD, *Secretary.*

GEORGE GUSTAV LEMPE, *President.*

Medical News

Edited by Arthur J. Bedell, M. D.

THE ALBANY GUILD FOR THE CARE OF THE SICK.—STATISTICS FOR JULY, 1906. Number of new cases, 119; *classified as follows*: Dispensary patients receiving home care, 3; district cases reported by health physicians, 10; charity cases reported by other physicians, 46; patients of limited means, 60; old cases still under treatment, 41; total number of patients under nursing care during the month, 160. *Classification of diseases* (new cases): Medical, 29; surgical, 5; gynaecological, 3. Obstetrical work of the Guild, 40 mothers and 39 infants under professional care; dental, 1; skin, 1; transferred to hospitals, 2; deaths, 7.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 2; attending obstetricians, 2; medical students in attendance, 4; Guild nurses, 5; number of visits by attending obstetricians, 8; by the medical students, 40; by the Guild nurses, 55. Total number of visits for this department, 103.

Visits of Guild nurses (all departments): Number of visits with nursing treatment, 1,227; for professional supervision of convalescents, 162; total number of visits, 1,389. Four graduate nurses and 4 assistant nurses were on duty. Cases were reported to the guild by 3 of the health physicians and by 28 other physicians and by 1 dentist.

INSPECTOR OF NURSE TRAINING SCHOOLS.—The State Civil Service Commission will receive applications until September 4, 1906, for the position of Woman Inspector of Nurse Training Schools in the State Department of Education. The salary is from \$1800 to \$2100. Candidates must be citizens of the United States, legal residents of New York State, registered nurses and graduates of a registered nurse training school with at least five years experience since graduation in supervision, administration or instruction in a nurse training school.

Application forms and particulars of the competition may be obtained by addressing the Commissioner at Albany.

CHARLES S. FOWLER, *Chief Examiner*.

THE QUARTERLY JOURNAL OF INEBRIETY.—The Summer number of the *Quarterly Journal of Inebriety* is a particularly notable issue of this always interesting and valuable publication. It has been greatly enlarged, and its typographical appearance is exceptionally attractive. Among the leading articles in this number are: "The Relation of Alcohol to Tuberculosis" by J. W. Grosvenor, M. D., "Physiological Action of Tea as a Beverage" by Sir. Lander Brunton, M. D., "Morbid Predisposing Causes in Dipsomania" by W. L. Howard, M. D., "Reflexes from the Eye in Narcosomania" by T. H. Evans, M. D., "The Alcohol Cult" by John Madden, M. D., "Comparison of the Effects of Alcohol and Opium" by W. H. Park, M. D., and two articles by the editor, Dr. T. D. Crothers, on "Unrecognized Toxic Insanities" and "Farmfield Reformatory for Inebriate Women." Many pages of sound editorials, entertaining abstracts,

book reviews and comments complete an issue that will prove of interest and value to every physician.

PERSONAL.—DR. LOUIS LE BRUN (A. M. C., 1891), after a prolonged period of post-graduate study abroad, in which he perfected himself for the treatment of diseases of the ear, nose and throat, has opened an office for the practice of his specialty at 238 Lark street, Albany, N. Y.

—DR. ELMER E. MARTIN (A. M. C., 1892) has removed from Stottville, N. Y., to Millville, California.

The Boston Medical and Surgical Journal of August 16, 1906, contains the following complimentary reference to work done by Dr. M. S. Gregory, a graduate of the Albany Medical College in the class of 1898:

Psychiatry in Germany. With a view to securing for the new Bellevue Hospital the benefit to be derived from special studies in hospital construction and management at the best institutions in England and on the continent, Dr. M. S. Gregory, resident alienist and chief of the psychopathic department, was sent abroad last April by the trustees of Bellevue and Allied Hospitals. He has just returned from the trip after visiting London, Paris, Berlin, Munich, Berne, Lucerne and other cities and will embody the results of his investigations in a formal report to the board of trustees. In speaking of the status of psychiatry in Germany he states that he was much impressed with the feeling regarding insanity there. Mental diseases, instead of exciting the abhorrence in the public mind which is met with in this and many other countries, are looked upon in the same light as cases of disease of other parts of the body. The result is that a large percentage of patients who might otherwise be regarded as incurable, and be shut up in an institution for a lifetime, receive treatment in the early stages of their maladies, and are restored to a normal condition and returned to their families within a few months. No taint of having been legally adjudged insane is on them, and they have nothing to live down in the communities in which they reside. The study and treatment of these cases is conducted in the most scientific manner, and in the preliminary dealing with mental diseases, Dr. Gregory thinks the German hospitals lead the world. He found the procedure in criminal cases, with alleged insanity, also most admirable.

"For instance," said he, "a man commits a murder in Germany and sets up a plea of insanity. They have no foolish system such as we have. They do not call, say, fifteen physicians for the defense and fifteen physicians for the state, and perhaps as many laymen and tell them to find out whether the murderer is sane or insane. Instead, the judge orders the prisoner committed to a general hospital in the district, and it becomes the duty of the state alienist to that institution to keep the prisoner under observation. He takes his own time for his study of the case, and upon his report the accused is tried or not tried. This official gets no fee. He has no prejudices concerning the prisoner, one way or the other. If he declares the man sane, and his verdict is successfully challenged, the work of that alienist for the government ends, then and there. No politician can save him."

Dr. Gregory found nothing better abroad than the New York State Hospitals as regards buildings, management and the treatment of insanity. As to the treatment of patients in general hospitals, he expresses the opinion that nowhere in Europe do such patients have so many comforts and privileges as in Bellevue and other similar institutions here.

—DR. JOSEPH DAY OLIN (A. M. C., 1904) after two years of post-graduate work in Albany, is about to open an office in Watertown, N. Y.

—DR. HAROLD E. HOYT (A. M. C., 1904), who has been in Porto Rico during the last year, has gone to the far West, and will probably settle in Portland, Oregon.

—DR. J. P. FABER (A. M. C., 1905), who was associated with Dr. Hoyt in his work in Porto Rico, has opened an office in Scotia, N. Y.

—DR. JOHN D. CRANE (A. M. C., 1905) is at Hawley, Pa.

DEATH.—GEORGE H. SPAFFORD, M. D., a member of the class of 1859 of the Albany Medical College, assistant surgeon of the Sixteenth Vermont Volunteer Infantry during the Civil War, a member of the Pension Examining Board and school director, died at his home in Cavendish, Vt., June 18, 1906, after an illness of six months.

In Memoriam

HARRISON EDWIN WEBSTER, LL.D.

Union University Quarterly, August, 1906.

Harrison Edwin Webster, LL.D., President of Union College from 1888 to 1894, died at the family residence in Rochester on Saturday morning, June 16, at the age of sixty-four years and nine months. Dr. Webster had not been in good health for many years and some three years ago he was twice stricken with paralysis. His mortal illness set in about four weeks prior to his death. He is survived by his wife, by one daughter, Mrs. Annie Noel Webster of New York City, and by three sons, Edwin J., Ralph P. and Thomas Webster, all of Rochester. The funeral service was observed at the residence in Rochester on Monday morning, June 18, and in the afternoon Dr. Webster was buried in the College plot in Vale Cemetery, Schenectady.

Harrison E. Webster was born in Angelica, Cattaraugus county, September 9, 1841. At the age of seven he removed to Clayville where he received his common school education. Eager to go farther he prepared for college, largely through his own efforts, and entered the sophomore class of Union College in 1859. Withdrawing from college on the outbreak of the Civil War, he enlisted with the 117th New York Infantry and served as a private soldier until the close of the war.

Having acquired the means of completing his college course by teaching school, he returned to Union and was graduated with the highest rank in 1868.

Dr. Webster was appointed tutor in Natural History and Physical Geography at Union in 1869 and in 1873 was made professor of Natural History. In this chair he continued until 1883. During the years of his service as a professor at Union, Dr. Webster gained national and, through his publications on Annelida Chaetopoda, even international repute as a scientist. In the pursuit of his investigations he organized several expeditions to the Bermudas, associating students of the college with him. In the course of these expeditions he collected many valuable specimens of marine life; these he gave to the college. However, that which most distinguished Dr. Webster as a professor was his genius for friendship which enabled him to get very close to his students and to impart the best gifts of an intensely human heart and of a very active, keen and versatile mind; through the medium of friendship he gave inspiration.

In 1883 Dr. Webster resigned his professorship at Union and accepted the professorship of Geology and Natural History at the University of Rochester. There he remained until 1888, when he became president of Union College. The College was then almost in a condition of suspended animation. Dr. Webster revived it and strengthened it and, in particular, greatly increased the attendance. However, after an administration of six years, he resigned his office on account of ill health and retired from active life. Since that time he has resided in Rochester.

Dr. Webster was a member of the Zeta Psi and the Phi Beta Kappa fraternities and an active and honorary member of many scientific societies. The degree of M. D. was conferred upon him by the Albany Medical college in 1881 and that of LL.D. by the University of Rochester in 1888.

At the funeral service in Rochester, Professor Walter Rauschenbusch of the Rochester Theological Seminary paid this fine tribute to Dr. Webster's memory:

"We have been brought together by our common love and reverence for a life which has probably meant more to many of us than we ourselves shall ever know. I should like to express very simply what is in all our hearts to-day, and what will be in the thoughts of a great number of others when the word reaches them that Dr. Webster is dead.

"For his family a very loving heart has ceased to beat. Nothing can ever replace for his children what they have now lost. Men of great social gifts often live for the outside world, turning a radiant hemisphere to strangers, and a morose and silent face to their own people. Men of intense intellectual nature are often so abstracted by their studies that their own children get only the dregs of their interest and vitality. Dr. Webster was a man of great social brilliancy and attractiveness, and a man of continued intellectual application, but nothing ever eclipsed his children. He was most tenderly interested in their welfare, sympathetic, tolerant, hopeful and glad. In an interval of consciousness before his death he said to me: 'I don't know anything now but children,



Your Friend
H. E. Webster

children, children,' and he repeated the word 'children' over and over. It was the palsied hand of his mind feeling its way along the most familiar strings on the harp of his life. His first grandchild, named after him, was a great and sweet comfort to him. For his wife he expressed an affection so tender that I must not quote his words. His last words were a blessing on her faithfulness. Because he loved his family so passionately, any sorrow coming to him by the death or affliction of his dearest ones hurt him profoundly. Some things he rarely or never mentioned. With all the careless ease of his talk he had a deep reticence. But much of the cloud that darkened his later years had risen out of the depths of his griefs.

"To his friends he gave unstinted devotion and fidelity. He was an exceedingly companionable man, ready to meet any man, swift to find the plane of ideas and interests on which the man lived, and most adaptable in meeting him on his own level. If he found any measure of intellectual candor or of the love of truth and justice, he adopted the man into the great family of his friends and never forgot him again. It was a comfort to him to think of simple-minded men whom he had met only once or twice in his life. In his range of selections he was very catholic. He did not follow the conventional lines of society, nor even professional and intellectual lines. He picked out people for their human qualities. What he hated was obliquity. I remember the calm tones with which he pronounced the verdict on a certain minister: 'I think he is the most disingenuous man I ever met.'

"By the same process he won the hearts of the men he liked. There was an immediate feeling that here was a man,—genuine human nature and of a very high order. He said to me once: 'I'm no good myself, but I've had the salt of the earth for my friends.' Not all of his friends, however, rose above the conventional standards of judging as nobly as he did himself. Not all of them were as faithful to him as he was to them, and to some of us the keenest pang in the news of his death will be the thought that we neglected him when he needed us most.

"Dr. Webster was a man of very unusual intellect. An eminent physician in Albany who was one of his pupils, says of him: 'He was the most intellectual man I have ever known.' His intellectual interests ranged all around the horizon. If there was anything to which his mind had remained unresponsive and torpid, I don't know what it was. At one time or another he had taught nearly everything in the old college curriculum. Yet he carried his learning so lightly that he was never ponderous. He never bored you. He could play with every fact he knew. His body never carried much size of muscle, but when he used to work in dredging for marine specimens, he could outpull the professional boatman; his muscular fibre was flexible and supple. His intellectual fibre had the same quality. He was a wrestler and loved nothing so well as to strip and grapple with a heavy-weight. His best work was done in conversation. In public speaking and in writing he lacked the stimulus of opposition. I do not think I have ever met a keener talker. He instantly understood the drift of your mind, saw the end of your argument before you saw the middle, and helped you

to get it stated. Socrates the Athenian is a concrete figure to me, for I put Webster the American in his place and then he is very comprehensible. Only Webster would have been less prolix than Socrates.

"One chief cause for his mental suppleness was the utter lack of dogmatic ballast in his mind. He had strong opinions, opinions which he never actually changed. But he always held them open for discussion. When he began his teaching in the University of Rochester, I remember that he invited discussion in the class-room and said: 'Everything is open for discussion in this class-room except the multiplication-table and the Lord Jesus Christ.' In other words, he refused to call in question the self-evident truths of the natural world and the self-evident laws of the moral world, but all other things were there to be examined. Another cause for his continued flexibility was his humility. He was utterly fearless in his mental processes, and to many doubtless he seemed irreverent and reckless, but still he was a humble thinker. His agnosticism was largely due to his distrust of human ability. 'I've only got a two-penny intellect anyway,' he would say, and he did not feel that 'God had called him into all his counsels when he created the world.'

"His early professional work was in zoology, and he did brilliant and original work in it. But describing specimens or even discovering new species was not the end of mental existence with him. He was always reaching out for the larger truths to which natural science might lead. One of his pupils at Union College, who afterward became his successor in the chair of Natural History, Professor James H. Stoller, says: 'His great merit was his power to arouse the interest of his students not only in the subject-matter of natural science, but also in its philosophical interpretations—its values for human thought and human life.' At that time the era of natural science had just begun in our country. The Darwinian theory was stimulating inquiry and opening new views of all life and of the whole universe and its Maker. That was the real cause of attraction for him. In studying marine zoology he was on the firing-line in the great philosophic battle of those decades. Later his interests were more given to the larger questions. As he once quaintly said to me: 'I'm glad I studied bugs, but I'm glad I don't have to study them any more.' In later years the sociological questions forged to the front in his mind as in the thought of the whole world, and again he was on the firing-line. I remember with what profound interest he told me in 1885 of the hold the land theories of Henry George were getting on the trades-unions.

"With such a mental make-up he could not help being a brilliant teacher. He was entirely simple and clear in his statements. He could light up the plainest subject with the largest generalizations. He was witty and quick in repartee in the class. He was wholly unconventional in his talk and bearing, perfectly free and easy with the men, and yet with so firm a grip on their behavior that no class ventured on a second folly after it had seen one man come to grief. It is no wonder that his students fell resistlessly under his spell, and the best men most. They quoted his epigrams and they drank in his philosophy of life. But he in turn gave himself to the men. His work did not end with

the class-room. He found ways of attaching the promising men to himself, induced them to visit him, and sat up to the small hours of the night to talk over their difficulties with them. The present Dean of Union College, Professor B. H. Ripton, says: 'Never have I known a man who gave himself so unselfishly to young men and who received in turn so large a measure of devotion and influenced so deeply their life and thought.' In his way he was a real pastor of a new type, a shepherd of souls to a class of men not reached by many pastors, the intellectual young man who is in doubt. To others he might seem an iconoclast; to such men he was a builder of faith. He gave them assurance in turning their back on obsolete traditions, but so far as he exerted spiritual authority, it was for faith in God and the moral law. One of his pupils, Professor Arthur S. Wright, of the Case School of Applied Science in Cleveland, says very truly: 'His influence was especially marked with the wayward and he saved many a fellow from evil ways. I know men to-day, sound in mind and heart, whom he restrained and helped to start right in life. For long years he gave his time, his money, his energies—and I fear his health—to the work of strengthening and guiding young men. Religion, which to him was simply living the Divine life, was, I am convinced, the motive and mainspring of his work and life. Scores of ministers of the Gospel would, I am sure, gladly bear witness to his influence over them in the things of the spirit.' His influence was for and not against religion. Dr. C. M. Culver of Albany says: 'No other man, except my own father, has so beneficially affected my life. He had me join the church after I had been for years, at least seemingly, quite on the other side.' I remember how he suggested that any man in doubt about religion, should read the Gospel of John and mark anything that he could not assent to, knowing well that there would be very little. I do not say that he never upset and injured young men. The open air of soul-liberty is raw to those who have always lived in-doors. But if any man has tried to help human souls in trouble and has never unintentionally hurt any of them, his experience has been singularly fortunate.

"Dr. Webster was always a truth-seeker. He had the altitude of mind expressed by Lessing in his famous epigram. In boyhood he became an infidel because he sought the truth. He had read geology and collided with the traditional religious teaching about the origin of the world in six days. With that doctrine went the whole authority of the church as he then understood it. As a callow youth he was the leader in a kind of free-thinker's club. He was wrong, but it was because he was on the road to the truth. The church now stands where he then stood about the first chapter of Genesis. Later on he re-examined all his objections to Christianity and worked his way back to religious faith by giving simple adhesion to everything which convinced him as true, and above all to Jesus Christ. 'Jesus Christ is my God; I haven't got any other God,' he used to say. The Christ-life in humanity was all he cared for, all he hoped in, and his deepest dejection came when he felt how little hold it had taken on humanity as yet. Most men would have classed him as a rationalist and agnostic in religion, and he was

both. But I think in his real religious life he was a humble believer in spiritual truth, a follower of Jesus Christ, and a spiritual mystic. He has told me of experiences in which he had realized Christ's spiritual presence as tangible as if Christ were in the room with him; and others in which he had obeyed a higher inner voice and found it justified. If he has sinned, he suffered for it. But if we knew all, if we understood how his sins grew directly out of the finest virtues, we should feel that perhaps with God who knows all, it will be easier to pardon his faults than the respectable virtues of some of the rest of us.

"He was glad to die. In the last conversation I had with him, he was anxious to know if I believed he was going to die. When I told him, yes, I knew he could live only a short time longer, he shouted for joy to have his hope confirmed; he struck his breast and cried aloud: 'Good, good, good,' I prayed with him, and then he continued the prayer in extreme feebleness of body and mind. I wrote down the words when I got home:—'I want to pray God to bless my children and be to them all he has been to me. He has always taken care of me ever since I was a child. And when my life was shattered, he took my life and changed me and made me a Christian. There was a time when I hated God and hated his word, and it was all offensive to me. But then the time came when it was all good. I want God to take me home soon. I am tired and want to go.'"

JAMES E. SMITH, M. D.

Dr. James Ezra Smith died on the morning of August 15, 1906, at the Albany Hospital following a stroke of paralysis and a fracture of the skull sustained by a consequent fall. Dr. Smith was stricken at his home, 315 Washington avenue, was immediately taken to the Albany Hospital but never regained consciousness.

Dr. Smith was the oldest son of Dr. Charles H. and Lucy Blair Smith, and was born in Albany, October 5, 1867. He was educated at the Albany Academy, and at Union College. He then studied with Dr. Vander Veer and graduated from the Albany Medical College with the class of 1889. He did post-graduate work at the New York Polyclinic and New York Post-Graduate School and Hospital. He was the valedictorian of his class when graduated from the Albany Medical College. He was a member of the Medical Society of the County of Albany and was county physician for four years, from 1890 to 1893. He was a member of the Albany Club.

Dr. Smith was particularly interested in military affairs. His military career commenced at the Albany Academy. On July 9, 1885, he enlisted as a private in Company A, Tenth Battalion; on June 9, 1889 he was elected a sergeant; on November 15, 1893, he was made inspector of small arms practice with rank of first lieutenant. At the outbreak of the Spanish war he became second lieutenant of Company D, First New York Volunteer Infantry, in which he served in the Hawaiian islands. On May 18, 1904, he was made assistant surgeon of the Tenth Battalion and on May 1, 1905, when the Tenth Regiment was organized, he was rendered supernumerary.

Lieutenant Smith was among the first who assisted in the organization of Captain Frank Rockwell Palmer Camp, Spanish-American War Veterans. He was an earnest worker in the interests of the Spanish war veterans, and two years before his death was elected commander of Palmer Camp. A week before his death he was elected senior vice-commander of the State Department of the Veterans, and had he lived he would undoubtedly have succeeded to be State commander. He was a member of the Albany Association of National Guard Officers.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

ANNOUNCEMENT OF NEW BOOKS

Messrs. W. B. Saunders Company announce for publication in the early fall the following works:

Keen's Surgery: Its Principles and Practice. (Volume I.)

Sobotta and McMurrich's Human Anatomy. (Volume III.)

Webster's Text-Book of Gynecology.

Hill's Histology and Organography.

McConnell's Pathology.

Morrow's Immediate Care of the Injured.

Stevenson's Photocopy (Retinoscopy and Skiascopy).

Preiswerk and Warren's Atlas of Dentistry.

Goepp's State Board Questions and Answers.

Lusk's Elements of Nutrition.

The Practical Medicine Series. Comprising ten volumes on the year's progress in medicine and surgery, under the general editorial charge of GUSTAVUS P. HEAD, M. D. Vol. III, *The Eye, Ear, Nose and Throat*, edited by CASEY A. WOOD, C. M., M. D., D. C. L., Professor of Clinical Ophthalmology, Medical University of Illinois; ALBERT H. ANDREWS, M. D., Professor of Otology, Chicago Post-Graduate Medical School; GUSTAVUS P. HEAD, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Series 1906. The Yearbook Publishers, 40 Dearborne street, Chicago. Cloth, Octavo.

The third volume of this series fully sustains the reputation achieved by the two that have preceded it. While it is impossible to completely cover the year's work done in these three important medical specialties, within the space allotted to them in this book of 369 pages, the editors in charge have given us a compact and well written resumé of the progress made along these lines.

An equal number of pages have been devoted to each specialty, and while the rare and unusual have not been neglected by the editors in arranging their abstracts, still the more practical side, that which will appeal to the general practitioner as well as the specialist, have been emphasized and more fully discussed, and the value of this work as a book of reference enhanced.

Considerable attention has been devoted to papers on ocular symptoms in general diseases and this is true in regard to those parts of the work which treat of the ear, and of the nose and throat.

Also, because of their eminent practical value, many therapeutic agents have been described and their employment discussed at some length. A comprehensive and well arranged index and a list of all the authors cited bring the volume to a close.

C. H. M.

A Text-Book on the Practice of Gynecology. For practitioners and students. By W. EASTERLY ASHTON, M. D., LL.D. Octavo volume of 1079 pages, with 1046 illustrations. Second edition. Philadelphia and London: W. B. Saunders and Company, 1906.

A review of the first edition may be found in the August ANNALS for 1905. The author states that "In making this review of my Practice of Gynecology within so short a time, the changes are necessarily few in number and chiefly limited to correcting a few typographical errors and altering several of the illustrations."

J. A. S.

Eczema. By SAMUEL H. BROWN, M. D. P. Blakiston's Sons & Company, Philadelphia, 1906.

The author in this small volume of 100 pages discusses eczema and eczema seborrhoicum after the manner of a clinical lecture. It is not intended to be an original piece of work, nor does it contain anything new. The facts, however, are stated clearly and concisely and everything theoretical is omitted. The author is purposely dogmatic lest the statements lose weight by being qualified.

The therapeutic measures recommended are valuable in that they are arranged to suit every variety of the disease. Proprietary preparations such as cuticura and eczymol are condemned because the conditions in the skin are constantly changing and demand frequent alterations in the strength of the medicaments used. The role of diathesis in the etiology of eczema is of little importance.

ALBANY MEDICAL ANNALS

Original Communications

NIL DESPERANDUM AS AN ARTICLE OF THE REFRACTIONIST'S MATERIA MEDICA.

By GEORGE M. GOULD, M. D.,

Philadelphia.

Between two and three years ago Professor Blank, 34 years old, of one of our large eastern universities, came to me and gave a sad history of ocular and other symptoms. His troubles began at least fourteen years ago, since which time he had worn spectacles constantly. Ten years ago he had a "nervous breakdown" when in college. His earliest symptoms were headache, "a strained feeling," etc., in the eyes. There was little or no relief, and a crisis came in January, 1901. It was the kind of "crisis" which occurs more often than we know—a sudden dilation of the pupil of the right eye, with paralysis of the accommodation. Consultations followed with a number of the most famous oculists of Germany, Von Hippel, Schmidt-Rimpler, Englehardt, Pantynsky, etc. None, of course, gave any relief, or influenced the condition, for none dreamed of the cause. One gave pilocarpin, temporarily relieving the objective symptoms. Studies and occupation were given up—a small matter with a young, ambitious successful teacher and man of learning, and soon "nervous prostration" ensued. He then tried a period of absolute rest, and perfect recovery seemed established. Why should ocular rest have cured the cycloplegia? Because eyestrain had caused it, would appear a sensible answer. Europe did not recognize such simple clinical facts and such simpler logic. In one week after "perfect recovery," with resumption of literary work, there was absolute "breakdown" again. The pilocarpin was again renewed with temporary ability to work some. The habit of doctoring the

symptom, treating the effect and ignoring the cause—how old it is, and how stupid! Gradually pilocarpin became useless, and then renunciation of effort, and resignation both collegiate and psychic, followed. His last glasses were ordered by Dr. W. of New York, who prescribed:

R.+S. 3.00+Cyl. 1.75 ax. 45°	}	For distance
L.+S. 4.00+Cyl. 2.00 ax. 135°		
R.+S. 3.75+Cyl. 1.75 ax. 45°	}	For reading.
L.+S. 4.00+Cyl. 2.00 ax. 135°		

This physician had found, therefore, a slight paresis of accommodation in the right eye, and none in the left. But several other things were not found which were necessary to cure.

Intense photophobia now appeared, and became so severe that the patient had to sit in the darkness every evening, as no artificial light could be endured. This symptom, with many variations, is also common in other patients. Why can the weak small flames of artificial lights not be borne when daylight and even sunlight gives no trouble? Because daylight is diffused, the sun is never looked at, the ocular stimulus is reflected. The shading mechanisms of the eye are numerous, and of great varieties, but the illumination of our houses and public buildings is atrocious. The source of light should never be seen. But Nature, and all the "theater headaches," "panorama headaches," etc., are not to be considered!

Finally my patient could not endure the daylight, could not read at all in any light and by any means. In the last year before coming to me, even the writing of a letter brought on headache, first frontal, then extending to the temples and occiput; in twenty minutes his head would feel as if it would burst ("rush of blood to the head" of antiquity, ancient and modern). In the last months before coming to me he has had attacks of dizziness, "grippe," etc. His digestion is perfect. Repeated urinalyses show renal normality. During the severe attacks of photophobia he would "shake all over." In former years he had high nervous tension, and great mental depression, but he is not just now despondent, although physically is "run down." He is now very "irritable." The New York physician, (Praised be the Lord!) ordered the pilocarpin discontinued entirely.

At the first visit I found the right pupil half dilated and

stable—the flag was at half-mast! The iris responded to no test. The media and fundus were normal. Under cycloplegia the errors of refraction were:—

R.+S. 2.75+Cyl. 2.25 ax. 45° = 20/20

L.+S. 3.75+Cyl. 2.25 ax. 135° = 20/40

Significant also was the fact that although at twenty feet the muscle balance showed 3° B. O., the abduction was 10° and the adduction only 14. More significant still was this: There was subnormal accommodation amounting to about two diopters. As I should for a time order discontinuance of near-work I added in a second frame only one diopter to the mydriatic error in order to help him a little in his necessary writing of a few letters, ordering also the full mydriatic correction for constant use. Prism-gymnastic exercises were instituted to increase the adduction power. In the next five months there was considerable gain in the ability to read, which was now an hour or two a day; but he had failed to return for advice as I had urged, and I found now that the muscles had become badly unbalanced; some hyperphoria, and an abnormally high esophoria had appeared. The acuteness of vision had improved in both eyes, the left registering 20/30 and with both eyes 20/20+. I now ordered bifocals, adding two diopters to the distance correction in the reading segments. At first these produced nausea, and he had to lie in bed for several days. This was to me a good sign instead of a bad one. I was steadily and doggedly resisting the wish and suggestion of tenotomy, and thought several times I might lose my patient by my conviction that it could do only harm. The nausea soon stopped, the reading ability grew, and by June, 1905, the man was reading three or more hours a day with no headache, etc. The hyperphoria had practically disappeared, and the esophoria was rapidly lessening. In October, 1905, his prescription for new glasses read as follows:—

R.+Sph. 3.00+Cyl. 2.00 ax. 50°	}	Distance	}	Bifocals.
L+Sph. 4.00+Cyl. 2.00 ax. 130°				
R+Sph. 5.00 and cylinder	}	Near		
L+Sph. 5.50 and cylinder				

From this time the gain has been more rapid, until now he may be called well, and able to resume his work again. He is trying to secure some college or teaching position. I append extracts from his last letters.

"I am getting on splendidly. I am using my eyes about six hours a day at close work now. When they get tired I stop. I have had no nervous setback for three months or more. You have no idea how rejoiced I am. I never really began to improve until last November. I shall be at work next fall, and I have only you to thank, and you cannot know how much I am indebted to you. I was so discouraged, and I fear you also were, it took so long for the tide to turn."

"I have practically to begin life over again, but with all the drawbacks and encumbrances of a late start. You have made it possible for me to go on with my life-work and that is everything—it cannot be measured in dollars and cents. After four years of sickness—etc."

I have for the most part omitted some of the more important parts and details of a full report because they might prove wearisome to those who give pilocarpin for eyestrain cycloplegia, or who, with a polite goodbye, hand an ophthalmometer-diagnosis and prescription, made in two minutes, for a patient without a history, without an occupation, and without a future. That is good enough for "Science" and for "Success," but it will not cure the patient. And it would be difficult to epitomize the struggle I had for nearly two years against temporary relapses, against despondency, against "neurasthenia," against new symptoms, against tenotomy, against photophobia, and against temporary heterophoria and even passing strabismus, and several other worries. To several prerequisites of faith, and articles of faith I held fast and kept my patient from despair and from trying any "experiments":—

1. The man had a history; his disease had a history. The existing disease and the hurt patient there before the physician are not the only, often not the chief, data in making a diagnosis. They are what one treats, and sometimes they may help in diagnosis. The careful eliciting of a long tedious history, necessary to the rational practice of medicine is ignored, even scorned by many physicians. Only the biographic clinic can show the causes of the disease, running back through years of morbid habit.

2. Every item of the history cried out, *Eyestrain!* The nervous breakdown at college and with study, the recuperation with ocular rest, the ingravescence of symptoms, the resisting digestive

system, the cerebral symptoms, all begged for—simply a pair of spectacles that would stop the cause eyestrain.

3. "Scientific ophthalmology," especially the European brand, had resulted in the common farce-tragedy. Pilocarpin, and incorrect glasses were as much or as little indicated as trephining, or as tenotomy of the Achilles tendon or of the inferior oblique of the eyes.

4. The patient was a human being, having emotions, desires to live, with ambitions, and abilities (all except ocular ones), for a career—then for two years ruined. His future happiness, usefulness, and perhaps life, depended upon his cure, and upon the methods and characteristics of the man who undertook it. There is more in medicine than treating the disease, more than in treating the patient. The patient is a person, a friend and brother, with a past and a future. The classing and treating sick human beings exclusively as "clinical material" is an accursed thing and the curse of medicine.

5. Being certain that this patient's disease was due to eyestrain, and his heterophoria due to ametropia, I resolutely persisted in refusing any treatment except by and through the eyes.

6. But there was accurate refraction-diagnosis, upon which all else depended, accurate fitting and wearing of spectacles; and his subnormal accommodation was attended to, his entire astigmatism was corrected, and the eyes generally put in such a condition that the accommodation was in physiologic play, with as little strain as possible.

7. As usual the influence of dextrocularity, etc., was clearly shown in the exclusion first, of the left, amblyopia, (always to be watched as a sign, usually ignored) then in the renunciation of the right by cycloplegia.

8. The motto of a good physician is *Nil desperandum!* In the New Ophthalmology (scientific refraction-work) the cures are usually, i. e., in not too chronic cases, so much the rule, so quick and brilliant, that it seems almost absurd. But when other bodily organs have been injured or diseased, when the mind has lost resisting power, when even the mere habit of disease has become too inveterate, pluck, and self-confidence, and "hanging to the patient," if based upon skill, self-scrutiny and caution, will finally reward one for the long struggle.

TUMORS OF THE TRACHEA.

Read at the Annual Meeting of the American Laryngological Association at Niagara Falls, N. Y., June 1, 1906.

BY CLEMENT F. THEISEN, M. D.,

Clinical Professor in Diseases of the Nose and Throat, Albany Medical College.

Bruns, in his very complete article on the neoplasms in the air passages (trachea), states that the first observation of a tracheal tumor was in 1767, by Lieutaud. The patient in whom it was observed, a boy, died of a sudden attack of dyspnea, and a polyp with a long pedicle, which had been carried into the glottis by the air current and had caused the sudden death, was found. After the introduction of the laryngoscope the reports of tracheal tumors became more frequent.

Tuerck, in 1861, was the first to observe a tumor in the upper part of the trachea in the laryngeal mirror. After him cases were reported by M. Mackenzie, Schroetter, and Stoerk. This rare occurrence of tracheal tumors is in great contrast to the frequency of laryngeal tumors, as Semon in 1889 collected over 10,000 cases of benign laryngeal neoplasms (Bruns). According to these figures, tracheal new growths as compared to those occurring in the larynx would be less than one per cent., or, in other words, the relation would be approximately 100 laryngeal growths to one in the trachea.

Bruns' personal observations are somewhat different, as he observed 300 laryngeal growths to seven in the trachea.

Moritz Schmidt, out of 42,635 cases of diseases of the upper air passages, observed 2,088 new growths, of which 748 were laryngeal and only three tracheal.

Bruns states that the slight tendency of the trachea to the development of new growths may be explained by the fact that the trachea, which is a simple rather rigid, smooth tube, has practically only the passive function of the passage of air, while the larynx has a complicated structure, and such a function that its parts are in almost constant motion. This also explains perhaps the slight tendency of the trachea to primary catarrhal inflammations, and the fact that the majority of tracheal tumors are in the upper part of the trachea and the smallest number in the middle, because particularly this part of the trachea is so well protected from irritation of all kinds.

In order to study the subject, the statistics of the different writers had to be consulted. The valuable theses of Mueller,³ Koch,¹ Orth,⁴ Schroetter,⁵ Lemoine,⁷ Scheuer,⁸ and Bruns' monograph⁸ were of great assistance in preparing this paper. The monograph of J. Solis-Cohen⁴¹ in Ashhurst's Encyclopedia was also used. A good many of the original reports of cases were also consulted.

Granulation tumors resulting from tracheotomies and the wearing of tracheal cannulas, and the syphilitic or tuberculous granulomata, were not considered genuine tumors, and were not included in this paper. The writer's paper is based on a study of most of the authentic cases of primary tracheal tumors in the literature, 135 cases in all. Other cases have been reported, but in some of them there was some doubt of the diagnosis and in others the data were insufficient.

Of the 135 cases 89 are benign and 46 malignant.

BENIGN NEOPLASMS

The benign new growths occurring in the trachea are about the same as those observed in the larynx. The following varieties occur in the trachea: the fibroma (polypus, fibrous polypus), the lipoma, the papilloma, the ecchondroma and chondro-osteoma, the adenoma, the intratracheal goitre or struma, and the lymphoma. Of the malignant neoplasms only the sarcoma and carcinoma have been observed occurring primarily in the trachea.

Intratracheal Struma.—Considering first the benign growths, we find that the intratracheal struma is one of the rarest as well as one of the most interesting forms.

Cases of intratracheal struma have been reported by Ziemsen,⁷³ Bruns,⁷⁴ Heise,⁷⁵ Roth,⁷⁷ Paltauf,⁷⁸ Baurowics,⁸⁰ Freer,⁸¹ and Theisen.⁸²

Three cases, those of Neumayer⁷¹ and Frankenberger,⁷² reported as cases of struma, have not been included in this list, because the diagnosis was not proved in any of the cases.

Abstracts of the reported cases of intratracheal struma will not be given, because they were published in the writer's original paper, "A Case of Intratracheal Colloid Struma: Operation," in the *American Journal of the Medical Sciences*, June, 1902.⁸² A full report of the writer's case was published at that time, with the histological diagnosis, which was "colloid struma originating in thyroid tissue situated beneath the submucosa of the trachea."

It may be of interest to mention at this time that the tumor, which was removed by tracheo-fissure, November 16, 1901, and which extended downwards along the posterior wall of the trachea from the first ring for a distance of five centimeters, has not returned. I examined the patient a few months ago, and found the trachea clear with the exception of a little thickening where the tumor had been attached to the tracheal wall. Fig. 1 shows the tumor as it looked on laryngoscopic examination, and Fig. 2 shows a drawing of a section, low power.

As the etiology of this class of benign intratracheal growths has been so well studied, I will consider it rather thoroughly. Up to the time of Paltauf's⁷⁸ investigation it was, however, rather obscure.

The two theories as to the origin of this most interesting form of tumor that have received the most consideration are those of Bruns⁷⁹ and Paltauf.⁷⁶ Bruns and Heise, the chief exponents of the embryonal theory, held that in intrauterine life a small accessory thyroid lobule from aberrant embryonic rudiments of the thyroid gland ("Angeborene Verlagerung von Schilddruesengewebe") must have, in such cases, been present in the foetal larynx or trachea. This lobule, developing about the time of puberty, resulted in the true intralaryngeal or tracheal so-called "accessory thyroid tumor." Paltauf was able to prove in his case by microscopical examinations that this theory was not tenable. In his case there was a connection between the intratracheal growth and the thyroid gland externally. The thyroid was so firmly attached to the cricoid cartilage and upper three tracheal rings that it could not be separated from them. The space between the cricoid and first tracheal ring, and a portion of the external lateral lobe of the thyroid, which was firmly adherent to the cartilage at this point, were examined microscopically, and he was able to prove positively that the thyroid tissue had penetrated (through the interstitial membranes) to the perichondrium and submucosa on the inner surface of the trachea, the cartilage itself remaining intact. This observation of Paltauf's is the first instance on record of normal thyroid gland tissue penetrating to the interior of the trachea, although Orth,⁸⁶ in his "Pathological Anatomy," makes the statement that "strumas, but particularly malignant neoplasms, could penetrate into the air passages."

Paltauf's conclusions, that these tracheal tumors springing

To Illustrate Dr. Theisen's Article on "Tumors of the Trachea."

Albany Medical Annals, October, 1906.

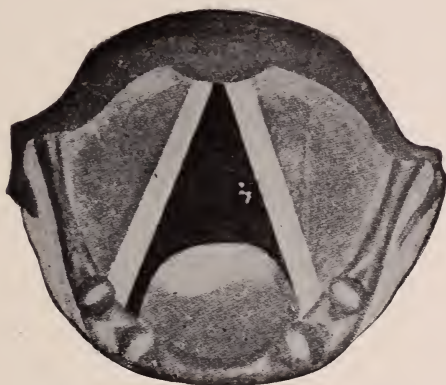


Fig. 1.—Author's case of intratracheal struma

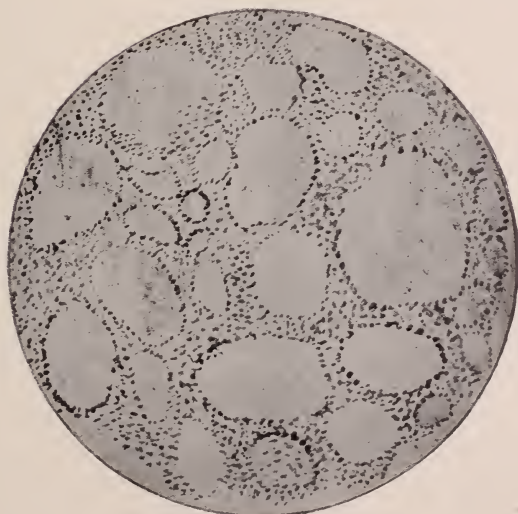


Fig. 2.

from thyroid tissue do not owe their origin to an intrauterine deposit of thyroid tissue, are of great interest. They should therefore not be called accessory thyroid tumors. They originate in *extra-uterine* life by penetration of the gland tissue between the cricoid and the thyroid cartilages, between the cricoid and first tracheal ring, between the upper tracheal rings, and through the interstitial tracheal membrane itself, from without. When this occurs it should be considered as a direct extension of an enlarged thyroid gland—a parenchymatous struma. Proof of this assertion is that the thyroid gland has really grown fast to the cricoid cartilage, interstitial membranes, and upper tracheal rings. This abnormal adhesion can be explained neither by pressure, nor by an inflammatory process, but can only have occurred during the formation and development of the thyroid gland, and only in the way that the foetal gland, in these cases, must be united with the perichondrium of the cartilage and the interstitial membranes.

Gruber's investigations,⁸³ perhaps, would give additional support to Paltauf's theory. He found, after examinations of many Russians and Bohemians, that there was often an accessory or really an extra lobule extending downward from the lowest posterior margin of the lateral lobes and lying very close to the trachea. These extra lobules may also lie in the cricothyroid space. The only parallel cases that possibly give some support to Bruns' theory are those observed by Streckeisen.⁸⁷ He found on sections through the hyoid bone seven times the so-called glandulæ intrahyoidea, that is, thyroid tissue was shut in the bone. He believes that this was shut in during the ossification period.

In my own case it could not be determined during the operation whether the left lateral thyroid lobe, which was enlarged, was adherent to the trachea or not. The isthmus was not, because in ligating it the ligatures could be readily passed between it and the trachea. It is a rational deduction, however, from the fact that the intratracheal growth was really part of the tracheal wall, and, springing as it did from the posterior and left lateral wall, that in this case, too, the intratracheal tumor was really an offshoot from the left lateral thyroid lobe.

An analysis of the ten cases of this class of tumors brings out a number of interesting points: (a) The location of the tumors

in all the cases, with the exception of Bruns' last case, was characteristic. They were all situated in the lower part of the larynx and upper part of the trachea and attached to the lateral and posterior walls. Bruns' last case was the only exception to this rule, the growth being attached to the anterior wall. (b) This point decides another interesting fact before mentioned that these tumors for this reason, should not be called accessory thyroid tumors, because they are really offshoots from the thyroid, as proved in the majority of the cases by the adhesion of the thyroid to the tracheal wall, and in Paltauf's case, microscopically, by the infiltration of the interstitial membranes with the follicles of the thyroid gland. (c) They were all observed early in life, from the fifteenth to the thirty-third year, with the exception of Roth's case⁷⁷ (the fortieth year). (d) A goitre of moderate size was present in all except in one of Heise's and in Freer's case. (e) They occurred in both sexes—three in males, and seven (including the author's) in girls and young adult women.

Papillomata.—The tracheal papilloma is one of the commonest benign tracheal growths, and usually occurs together with multiple laryngeal papillomata. The majority of the cases of tracheal papilloma occur in children.

Six of the recorded cases of tracheal papilloma were undoubtedly congenital, because the children were hoarse and there was dyspnea from birth.

Bruns has found the same to be true of laryngeal papilloma in children, about one fourth of the cases being congenital. (Bruns, P. Die Laryngotomie z. Entfernung intra-laryngaler Neubildungen, Berlin, 1878, S. 179).

Cases of tracheal papilloma have been reported by Davis Colley,¹¹ Maissonneuve,¹⁰ Bruns,⁹ Schroetter,¹² Mackenzie, M.,¹³ Labus,¹⁵ Mackenzie, M.,¹⁴ Butlin,¹⁶ Labus,¹⁷ J. Solis-Cohen,¹⁸ Schaller,¹⁹ Teschendorf,²⁰ Chiari,²¹ Siegert,²² Weil,²³ Stoerk,²⁴ Mackenzie, M.,²⁶ Stoerk,²⁵ and Krishaber.²⁷

A study of the reported cases shows that in a little less than one-third of the number the papillomata were confined to the trachea and in the majority of the cases are attached to the anterior wall, although they also occur in the posterior and lateral walls. Siegert²² has reported a papilloma as large as a pigeon egg, close to the bifurcation, and Stoerk²⁵ has also reported a case in which the growth was close to the bifurcation.

Chiari²¹ diagnosed a case with the laryngeal mirror in which

the growth was attached to the posterior wall at about the tenth ring. Maissonneuve,¹⁰ in 1856, at autopsy, found in the trachea of a boy aged ten years numerous reddish-white vegetations, which extended upwards to the vocal cords. They had started about two years before death, with catarrhal symptoms of the air passages.

Stoerk²⁴ observed another case in a man, aged 22 years, in which multiple papillomata were present in the trachea at the level of the third ring, with numerous laryngeal papillomata.

Labus^{45 48} has reported three cases removed per vias naturales. In the first case there were papillomata of the left vocal cord, and others in the trachea (fifth to eighth rings). Removed with forceps, but recurred every four or five months. Final cure was obtained.

Second case: Small growth at level of third tracheal ring in boy, 13 years old. Removed with forceps. No recurrence after five years. Although the diagnosis of fibrosarcoma was made in this case microscopically, it was probably not malignant, from the fact that there was no recurrence after an endotracheal removal.

Third case: Tracheal papilloma, man aged 63 years, at the level of the fifth ring. Removed with forceps in different sittings.

Mackenzie, J. N. ("Transactions American Laryngological Association," 1898), described tuberculous tumors in the trachea, which at times takes the form of papillomata.

Bruns⁹ has reported two cases of tracheal papilloma in children aged respectively seven and ten years, occurring in conjunction with multiple laryngeal papillomata. In the case of a child of 5 years dying of a suffocative attack (Teschendorf²⁰) a mass of papillomata extending from the epiglottis to the bronchus was found, and in another case, that of a child who had also died during an attack of suffocation, the trachea at autopsy was found to contain numerous papillomatous excrescences extending almost to the bifurcation. Reported by Schaller.¹⁹ Sudden deaths of this kind have occurred mainly in children; the only adult case of which I could find any record was the one reported by Mackenzie, M.²⁶ Sudden death was produced in this case by a papilloma as large as a bean.

Lipomata.—Only one case of genuine lipoma has been reported,

by Rokitsansky,³⁶ Fig. 3. At the autopsy of a man, aged 85 years, a lipoma as large as a hazelnut was found in the left bronchus.

In another case, that of Chiari,³⁵ a primary bronchial tumor turned out to be a mixed lipoma and adenoma. The case was that of a woman aged 68 years, who died of emphyzema. It was made up mainly of fatty tissue.

Lymphomata.—I could only find record of two cases of lymphoma of the trachea. They were reported by Clark³⁷ and Vogler.³⁸

In Clark's case, that of a woman aged 75 years, a tracheotomy which resulted in the death of the patient had been performed for urgent dyspnea. The growth was found at autopsy.

In Vogler's case, that of a girl aged 19 years, a round tumor as large as a cherry, attached to the lateral tracheal wall, could be



Fig. 3.

seen with the laryngeal mirror. It was removed by tracheofissure.

Adenomata.—Seven cases have been reported: by Radestock,²⁹ Chiari,³¹ Mayer,³⁰ Scheuer,²⁸ Kolisko,³² Paltauf³³ and Rosenheim.³⁴

They are round tumors, originating as hypertrophies of the mucous glands. They are as a rule only slightly movable, and have their seat in the posterior wall of the trachea.

In Rosenheim's case, that of a young woman aged 23 years, a small, red, not movable tumor was seen in the upper part of the trachea. It was removed by tracheotomy and was found attached to the cricoid and upper tracheal rings. Diagnosis, colloid fibroadenoma.

Scheuer reported the case of a woman aged 56 years, in whose trachea a round tumor about the size of a cherry was found on laryngoscopic examination. It was attached to the posterior wall, by a thick pedicle, at the level of eighth ring. Removed by tracheotomy. Kolisko and Chiari have reported cases of adenoma of the bronchi. Chiari's case occurred in a man 73 years of age, who had died of tuberculosis.

Fibromata (fibrous polypi).—Cases of this kind have been reported by Rokitansky,⁵¹ Stallard,⁵⁴ Eppinger,⁵⁵ Tuerck,⁵² Maissonneuve,⁵³ Mackenzie, M.,⁵⁶ Fifield,⁵⁷ Mackenzie, M.,⁵⁸ Crutchley-Mackenzie,⁵⁹ Ingals, E. F.,⁶⁰ Avellis,⁶⁴ Braun,⁶³ Masini,⁶² Lewin,⁶¹ Makenzie-Johnston,⁶⁵ Oazmann,⁶⁶ Bidwell,⁶⁷ Jurasz,⁶⁸ Bockenheimer,⁶⁹ Fournie.⁷⁰

Rokitansky in 1851 reported the first pedunculated fibroma, situated at the bifurcation of the trachea. He did not describe it accurately.

I will give brief abstracts of only the most interesting cases.

Tuerck reported the case of a fibroma of the trachea found at autopsy. The patient, a man aged 37 years, had died of tuberculosis. It was situated in the upper part of the trachea, and was attached to the posterior wall. Stallard found in the trachea of a man aged 40 years, who had died during an attack of suffocation, a polyp as large as a tonsil. It had been attached to the anterior wall of the trachea, high up.

In Eppinger's case, a man aged 23 years, who had died suddenly, a round tumor as large as a hazelnut was found on the posterior wall of the trachea 4.5 centimeters above the bifurcation. The diagnosis was made microscopically.

Mackenzie has reported four cases of tracheal fibroma, all the cases he observed.

In the first case, a man aged 41 years, the growth was attached to the anterior wall of the trachea at the second ring. In the second case, a woman aged 22 years, the tumor was attached to the posterior wall at the third ring. In an attempt to destroy this with the cautery both vocal cords were injured.

In the third case, a man aged 37 years, and in the fourth case, a man aged 45 years, the polypi were attached to the anterior wall, in the one at the second ring and in the other about the fourth ring.

In two of Mackenzie's cases the polypi were destroyed with the cautery. In the fourth case the patient refused operation and

died suddenly a few months after returning home, probably of asphyxia.

Ingals has reported a case of tracheal polyp in a man aged 60 years.

In a case reported by Lewin, in which a fibroid polyp was attached to the posterior wall of the trachea, a tracheotomy was performed, and the patient wore the cannula twenty-four years. He refused any other operative procedure.

Mackenzie-Johnston and Oazmann have also reported cases of tracheal polypi. In Mackenzie-Johnston's case, the growth was removed by tracheotomy, and in Oazmann's case it was removed endotracheally.

Altogether I could find records of twenty-four cases of tracheal fibroma, although there are undoubtedly more. Of this number fifteen were pedunculated and nine were attached by a broad base. They were situated about equally in the upper and lower parts of the trachea, and attached to the anterior and posterior walls in about the same number of cases.

In the majority of the cases they occurred in middle life, only three cases having been observed in children between the fifth and fourteenth years. In eight of the reported cases sudden death from suffocation occurred.

Ecchondromata and Chondro-osteomata.—The solitary cartilaginous tumor of the trachea is almost unknown. Only one case could be found, that of Berg (Virchow, Jahresber, 11 S. 206. 1890). He observed a tumor as large as a nut at the fifth tracheal ring. It was removed by tracheofissure, and was found to be made up of cartilage.

Other ecchondromata and osteomata have been reported by Solis-Cohen,⁴¹ Virchow,⁴⁰ Ganghofer,³⁸ Chiari,⁴² Heymann,⁴³ Steudener,⁴⁴ Hammer,⁴⁵ Wilks,⁴⁶ Chiari, O.,⁴⁷ Schroetter,⁴⁸ Mischaikoff,⁴⁹ and Klebs.⁵⁰

Very little is known in regard to the genesis of this interesting class of new growths.

H. Chiari,⁴² in 1878, described the formation of osteomata in the trachea of a man aged 25 years, who had died of tuberculosis.

The first case of this kind was probably described by Wilks,⁴⁶ in 1856. In this case, that of a woman aged 38 years, there was a formation of bone in the mucous membrane of the trachea. His patient died of pulmonary tuberculosis, and at the autopsy the whole inner surface of the trachea was found covered with

small movable bony plates, which were attached to the anterior wall. No connection could be discovered with the tracheal rings.

Heymann⁴³ has reported a similar case in a woman aged 61 years. In his case a tracheotomy was performed and later a thyrotomy resulting in the death of the patient.

Five other cases have been reported by Hammer.⁴⁵

J. Solis-Cohen⁴¹ found in the trachea of a tuberculous patient, after death, a considerable number of minute closely aggregated ecchondromata beneath the mucous membrane.

As will be seen from a consideration of these cases, such bony and cartilaginous formations in the trachea are practically always multiple. They have all occurred in adults between the twenty-fifth and sixtieth years.

The causes of death in cases in which this condition was found were seven times tuberculosis, four times pneumonia, and, in one case each, laryngeal perichondritis, meningitis, brain tumor, and carcinoma of the uterus. Tuberculosis would appear to play rather an important role etiologically, although in what way has not been determined.

Mischaikoff's investigations⁴⁹ have perhaps helped to clear up the origin of these tracheal chondro-osteomata. He claims that they do not develop from the ordinary connective tissue of the mucous membrane, but from strands of connective tissue springing from the perichondrium. This is brought about, he states, by an anomaly in the development of the tracheal cartilage.

MALIGNANT NEOPLASMS.

Carcinomata.—Primary carcinoma of the trachea occurs most frequently as a medullary carcinoma and exceptionally as a cylindroma (Koschier).

Langhans has shown in a number of cases that these neoplasms originate in the mucous glands of the trachea.

Bruns¹⁰⁴ has reported a case that shows a probable malignant change in an intratracheal struma. As this is the only case of which I could find any record, in which an extensive resection of the trachea was performed, I will report it rather fully.

The patient was a man aged thirty-one years, who had suffered from slowly increasing dyspnea for many years. On laryngoscopic examination the trachea was seen to be filled with rounded, nodular masses attached to the posterior wall. Bruns resected the trachea, including eleven rings and extirpated the growth. The

patient lived for six years. The histological examination showed it to be an adenocarcinoma, probably an intratracheal malignant struma.

Tracheal cancer appears to favor the male sex; out of the cases collected by the writer, men were afflicted about twice as frequently as women.

The youngest patient was twenty-eight years old, the average age, however, being from the fiftieth to the sixtieth year. Many more cases occur between these years than between the thirtieth and fiftieth.

Tracheal cancer assumes a number of different forms. Langhans,⁹⁰ who in 1871 was the first to describe a primary cancer of the trachea, also first described the infiltrative form of tracheal carcinoma. His patient, a man aged forty years, had suffered for years with symptoms pointing to a stenosis of the right bronchus. The true condition was not, however, determined during life. At the autopsy the lungs were found normal, the bronchial glands enlarged and melanotic. A swelling was found in the lower part of the trachea, extending upwards for about four centimeters from the bifurcation. There were also nodules at the bifurcation, extending into the right bronchus for a distance of two and one-half centimeters. The bronchus itself was narrowed by a number of warty like elevations attached to its walls.

M. Mackenzie⁹¹ has reported one case also discovered at autopsy. In the trachea of this patient, a woman aged fifty-seven years, an ulcerated growth occupying the middle third of the trachea was found. On microscopical examination, the growth was found to be an epithelial cancer.

In Schroetter's case,⁹² a man aged fifty-eight years, a tracheotomy was performed. At autopsy a nodular mass was found in the trachea, extending from the first to the ninth rings. A microscopical diagnosis of carcinoma fibrosum was made.

Oestreich¹⁰⁰ observed in V. Leyden's clinic a primary carcinoma in the trachea of a woman aged twenty-eight years, the youngest patient on record.

Another case of carcinoma at the tracheal bifurcation was reported by Ehlich,¹⁰¹ in a man aged sixty-five years.

Koschier¹⁰² has reported two cases (cylindroma), both attached to the anterior wall, and another case,¹⁰³ a woman aged forty years, in whose case a carcinoma was removed per vias naturales with a specially constructed sharp spoon of Stoerk.

Other authentic cases have been reported by Hoffman,¹⁰⁶ Delafield,⁸⁰ Gibb,⁹³ Klebs,⁹⁵ Reiche,⁹⁸ Fischer,⁹⁹ Boschi,¹⁰⁵ Koerner,¹⁰⁹ Pick,¹¹¹ Hinterstoisser¹¹² Schmidt,¹¹³ Pogresbinsky¹¹⁰ and Sabourin.¹⁰⁹

The writer would add still another case of his own to this list. The patient, a man of fifty-eight years of age, presented himself for the relief of urgent dyspnea. With the laryngeal mirror a mass could be seen filling the upper part of the trachea and extending to the subglottic portion of the larynx. A tracheotomy was performed with cocaine. No other operation could be performed, because there was already involvement of the glands of the neck. The patient lived about four weeks after the operation. A microscopical diagnosis of carcinoma was made.

In Boschi's case, a man aged sixty years, a tumor extending from the bifurcation five centimeters upwards was found. It extended through the trachea and was attached anteriorly to the posterior wall of the ascending aorta as well as to the arch.

In all I could find records of twenty-seven cases, making with my own case twenty-eight cases.

The favorite seats for primary tracheal cancer are the upper parts of the trachea and the lower parts close to the bifurcation. The middle third is rarely involved.

In the majority of the cases the posterior wall is involved, while the anterior wall is not so frequently implicated.

The writer has only considered cases of primary tracheal carcinoma. No mention will be made of cancer secondary to laryngeal or esophageal cancer.

Carcinoma of the thyroid gland also frequently infiltrates the tracheal wall.

Sarcomata.—Only primary sarcomata will be considered. In three cases, however, those of Jurasz,¹³¹ Pieniazek,¹²³ and Wright¹³⁶ the larynx was also involved, but as this involvement was just at the dividing point, the origin of the tumor was probably in the trachea.

Although primary tracheal sarcoma is rarer than carcinoma, we have been able to collect eighteen cases from the literature.

They have been reported by Schroetter,¹¹⁵ ¹¹⁶ O. Chiari,¹¹⁸ Levi,¹¹⁹ Prota,¹²⁰ Heyninx,¹²¹ Killian,¹²² Gleitsmann,¹²³ Schroetter,¹²⁴ Labus,¹²⁵ Johnston-Cottrill,¹²⁶ Bamberger-Billroth,¹²⁷ Schech,¹²⁹ Pieniazek,¹²⁸ Wright,¹³⁰ Jurasz,¹³¹ and Mayer-Hueni.¹³²

In seven cases endotracheal operations were performed.

Of these one of Schroetter's cases¹¹⁶ lived twenty years, with many recurrences. Gleitsmann's case, which I will describe more fully later on, lived nearly two years, with a recurrence in about fifteen months.

In Heyninx's case,¹²¹ in which a myxosarcoma was removed from the trachea of a woman aged forty-one years, with the hot loop. I could find no record of the final result.

In three cases no recurrence could be detected after a short period. Cases of Labus,¹²⁵ Johnston-Cottrill,¹²⁶ and Schech.¹³⁹

Of the cases operated on by tracheofissure, the final result is only known in a few. In Mayer-Hueni's¹³² and Wright's¹³⁰ cases no recurrence took place for a considerable period. In Jurasz's¹³¹ case a slowly growing recurrence was noticed after two years.

Prota¹²⁰ has reported two cases, both in women between forty and fifty, in whom the growth was situated high up in the trachea.

Gleitsmann¹²³ has reported one of the few cases of tracheal sarcoma operated upon endotracheally.

The tumor in his case, that of a man aged fifty-two years, was situated in the upper part of the trachea and nearly filled its lumen. It was as large as a small walnut. The tumor was removed endotracheally with the Schech cannula, iridoplatinum wire, devised by Dr. Gleitsmann in 1894, being used. The growth was brought through the glottis without difficulty.

There was no recurrence for about fifteen months. The further history of the case, which Dr. Gleitsmann kindly sent me, is as follows: In March, 1903 (the first operation was performed in December, 1901), a small tumor reappeared below the anterior commissure and was removed with the snare as before. During the following months (April, 1903), the ventricular band became infiltrated, pain, fever, and aphonia developed, and at the last examination, May 9, 1903, the left half of the larynx did not move freely, and in the trachea small nodules could be seen below the anterior commissure and below the left vocal cord. A radical operation which was recommended was declined, and the patient was not seen again by Dr. Gleitsmann. He died some time in 1903.

This case teaches a valuable lesson. It proves the fact that endotracheal operations for malignant neoplasms offer very little chance of success. I have not been able to find records of any cases in which a patient remained permanently cured after an endotracheal operation. In the three cases before mentioned

those of Labus, Schech, and Johnston-Cottrill, the statement was made that a cure was obtained after a "short period."

Both sexes seem to be equally afflicted with tracheal sarcoma, and young people rather more frequently than persons more advanced in years

As a rule tracheal sarcomata are attached to the tracheal wall by a broad base and have a smooth surface. Occasionally they are pedunculated. They often reach a considerable size and almost completely fill the tracheal lumen.

For the sake of completeness I will give brief abstracts of two other tracheal tumors, reported by Johanni¹³⁴ and Henrici.¹³⁵

The tumor in Johanni's case filled the lower part of the larynx and upper part of the trachea in a woman aged sixty-six years, and finally caused her death. An exact histological examination is given. It was called an amyloid tumor.

In Henrici's case a tumor was present in the trachea of a man aged sixty-one years, who had suffered from "asthma" for fifteen or twenty years. It was situated on the posterior wall at the level of the third ring. A tracheofissure was made, and the tumor, which was two and one-half centimeters long and covered with a smooth intact mucous membrane, removed. Patient died suddenly two months after the operation.

The classification of the tumor could not be determined by the microscopical examination.

A review of the recorded cases of intratracheal tumors brings out some interesting points.

Of the benign growths papillomata occur most frequently, and of the malignant carcinomata are most frequently observed.

The following table shows the order of frequency with the number of each variety of tumor collected by the writer. This number could undoubtedly be added to materially, but it comprises most of the authentic cases on record to date:

Benign.—Papillomata, 25 cases; fibromata (fibrous polypi), 24 cases; echondromata and chondro-osteomata, 17 cases; intratracheal strumas, 10 cases; adenomata, 7 cases; lipomata, 3 cases; lymphomata, 2 cases; amyloid tumor, 1 case.

Malignant.—Carcinomata, 28 cases; sarcomata, 18 cases, making in all 135 cases, eighty-nine of which are benign and forty-six malignant.

A study of the cases shows also that tracheal tumors are situated in the majority of the cases in the upper part of the trachea

and less frequently in the lower part. They most rarely occur in the middle of the trachea. They are attached most frequently to the posterior wall, which is rich in mucous glands. This is particularly true of the carcinomata, which appear to take their origin from these mucous glands.

Some other interesting facts are brought out by a consideration of the reported cases of tracheal tumors.

In the first place their great rarity. The 135 cases collected by the writer represent nearly all the authentic cases recorded during the past seventy-five years. The majority of the cases have been reported, of course, since the first one was observed with the laryngoscope in 1861.

The rarity of tracheal tumors becomes much more striking when the eighty-nine benign and forty-six malignant tracheal tumors are compared to the 10,747 benign and 1,550 malignant laryngeal tumors which Semon collected between 1862 and 1888.

The malignant tumors of the larynx represent only about eleven per cent. of the total number, while in the trachea, according to the cases collected by the writer, they represent about fifty per cent. of the total number. These figures are significant, because they show that a strong suspicion of malignancy must always attach to a tracheal tumor.

Etiology.—Very little is known in regard to the etiology of most tracheal tumors, and writers as a rule barely mention it. In considering the etiology of tracheal new growths etiological factors such as congenital displacement of tissue, predisposition, and a general specific diathesis of the system are of importance.

The fact that the trachea is not more often the seat of new growths may be explained by its protected position and its somewhat passive functions. It is not easily subjected to mechanical or chemical irritation.

Granulation tumors originating after tracheotomies were not considered in the writer's paper, because they are not true new growths. A chronic inflammation of the tracheal mucous membrane probably plays an important role in the development of neoplasms. An inflammatory process, in conjunction with pulmonary tuberculosis, seems to have an important etiological bearing on the development of cartilaginous and bony formations. There is no apparent reason for this, however.

The etiology of intratracheal struma, which has been well worked out, has already been considered in this paper.

Symptoms.—As the main symptoms of all tracheal new growths are those produced by the resulting stenosis, and as we are to have an exhaustive paper on this subject I will not mention symptoms directly caused by stenosis at all.

There are a few symptoms, however, which can be attributed to the tumors themselves. Tumors in the trachea may be present for years without causing any special symptoms, and it is surprising that even large ones sometimes cause so little disturbance.

A case has been reported by Siegert²² in which a papilloma as large as a pigeon egg was situated at the tracheal bifurcation and did not cause any particular difficulty in breathing. This patient, a man 54 years old, died of general septicemia following an infection of a wound, and the tumor in the trachea was found at autopsy.

In one of Schroetter's cases¹¹⁵ the patient lived many years with a sarcoma that almost completely filled the tracheal lumen.

In some cases attacks of suffocation only come on periodically. This was so in the case reported by Fifield,⁵⁷ in which a fibroid polyp as large as a berry, covering the opening of the left bronchus, was found at autopsy.

The character of the dyspnea varies according to whether the growth is pedunculated and freely movable or not. A movable growth acts like a valve, so that at times there will be an inspiratory dyspnea and at other times an expiratory dyspnea.

Gerhardt claims that a bending forward of the head is a symptom that is always present in *tracheal* obstruction, while in *laryngeal* stenosis the head is bent backwards.

The voice as a rule is not affected, except when growths with long pedicles are situated high up in the trachea and are carried to the glottis by the air current. In such cases some hoarseness may be present without much dyspnea. Masini⁶² and Jurasz⁶⁸ both observed cases of this kind.

The voice may be also affected by an involvement of the recurrent laryngeal in cases of tracheal carcinoma. Such observations have been made by Hinterstoisser¹¹² and Oestreich.¹⁰⁷

Secondary symptoms are also produced particularly by slowly growing tumors. Occasionally diffuse bronchiectasis, empyema, and atelectasis are produced in certain portions of the lungs. Catarrhal bronchitis, lobar and lobular pneumonia, are also sometimes complications.

Koerner¹⁰⁹ has reported a case in which a carcinoma in the

lower part of the trachea encroached upon the right bronchus, and produced an obstructive atelectasis of the whole right lung.

Diagnosis—When the characteristic symptoms are present it is usually quite easy to make a diagnosis of some tracheal obstruction, although without direct inspection it would be hard to determine whether the obstruction is caused by a tumor, a stricture, or a foreign body. The diagnosis of a tracheal stenosis, the common symptom of intratracheal growths, is of course simple. It must be determined, however, whether the cause is in the trachea itself or from external pressure.

An examination of the upper part of the trachea, except in young children, can usually be made with the ordinary laryngeal mirror, after cocainization; in some cases without it.

Laryngoscopy can, however, be quite easily practised even in young children if they are given a little chloroform or somnoforme. A forehead lamp, or a self-illuminating mirror, is most convenient.

For laryngoscopy under an anesthetic a loop of silkworm gut may be passed through the tongue, as recommended by Jackson (*Laryngoscope*, April, 1905), and will not cause as much soreness as a tongue forceps. The Kirstein spatula is also of service for diagnosing tumors in the upper part of the trachea, and in children can be used just as well under general anesthesia. A good inspection of the trachea in adults may often be obtained, if the patient is examined while standing, according to Killian's method. In six of the seven cases of tracheal tumors operated upon by Bruns, he was able to make the diagnosis with the ordinary mirror. After cocainization much can be learned in regard to the nature of the growth with an extra long laryngeal probe. Instead of employing Kirstein's autoscope a Grant epiglottis lifter may be applied with the patient in Rosen's position and the upper part of the trachea inspected in this way.

An X-ray examination will at times show the presence of tumors that cannot be easily inspected and is a great aid in the diagnosis. For tumors below the middle of the trachea Killian's tracheoscopy or bronchoscopy would be of service if the tumor cannot be inspected in any other way.

As the methods of performing tracheoscopy, as well as the improvements of Ingals, Jackson, and others in instruments and methods of lighting the deeper parts of the trachea and bronchi,

are so well known, I will not mention them here. Then we are to have a paper on tracheoscopy.

As an operation would have to be performed in any event, it is best to perform tracheotomy when symptoms become urgent, and make the diagnosis and perform the operation for the removal of the growth, at the same time, rather than to subject the patient to a preliminary bronchoscopy or tracheoscopy. After tracheotomy an excellent inspection of the lower part of the trachea may be obtained through the ordinary Kelly cystoscope, after passing it down through the tracheal wound. An ordinary head mirror can be used in throwing light through the cystoscope. Small benign tumors could be removed through the cystoscope with forceps, particularly if a large cystoscope can be used.

The fibroma or fibrous polyp is usually pedunculated, and Schroetter¹¹⁴ has reported a case of a distinctly pedunculated sarcoma which was freely movable.

In Proebsting's case¹³² an apparent polyp with a long pedicle, which had been coughed out was found to be carcinomatous. The intratracheal struma has been fully considered.

It is often difficult to make a differential diagnosis between carcinoma and sarcoma.

It was found in a study of the cases that carcinoma occurs more frequently, particularly in men of advanced years. When metastases, which are rare in primary tracheal carcinoma, occur in the lymphatic glands of the neck or in the larynx, esophagus, or bronchi, there is no doubt about the diagnosis.

Sarcoma usually occurs as a growth with a broad base and smooth surface. It grows slowly, sometimes becoming very extensive, however, and shows little tendency to ulceration.

Carcinoma shows a greater tendency to ulceration, and is usually more irregular in outline.

The tracheal papilloma can, as a rule, be recognized by its appearance, particularly when it occurs in children, and is also present at the same time in the larynx.

Schroetter¹¹³ has described a tracheal carcinoma occurring in the form of papillomatous excrescences. Wright¹²⁹ has also described sarcoma simulating papilloma.

Prognosis.—The prognosis of tracheal neoplasms, unless some operative measures are promptly carried out, may be said to be almost absolutely unfavorable, because without operation the stenosis caused by the tumor becomes greater all the time, and the

patient may suddenly die of asphyxia even before tracheotomy can be performed. The higher up in the trachea the tumor is situated, the more favorable the prognosis, because it can not only be more easily reached during operations, but, if tracheotomy becomes necessary, the cannula can be introduced below the tumor.

When tumors are present low down in the trachea near the bifurcation, a tracheotomy, without at the same time a removal of the growth, may not do much good, because it would be difficult to get the end of the cannula below the growth. The fibromata, particularly the pedunculated polypi, according to all authorities, give the most favorable prognosis, because they usually occur singly and do not show a tendency to recur when removed.

Lemoine⁷ states that in twenty-six cases of benign tracheal growths collected by him cures were obtained by operations in ten out of fourteen patients. Of twelve not operated upon ten died.

The prognosis of the intratracheal strumas is also favorable, as their growth is very slow and they apparently do not readily recur after removal. In the writer's case before mentioned, removed by tracheofissure, there has been no recurrence since the operation was performed in 1901.

The papillomata are not so favorable, because they are usually multiple, often recurring simultaneously in the larynx and trachea, and show a decided tendency to recur after removal.

Among the cases we collected the endotracheal removal was performed in eight, in all of which the growths were situated in the upper part of the trachea. There were recurrences in a number of these cases.

In four cases, all children, a laryngo-tracheofissure was performed in order to remove at the same time the laryngeal and tracheal growths. A number of these cases subsequently died of recurrences. The carcinomata offer the most unfavorable prognosis of all. Statistics show that patients afflicted with tracheal carcinoma live as a rule only a few months, although they may live several years. Death usually results through slow suffocation, pneumonia, or metastases to neighboring organs.

On the other hand, observations are on record to show that at times the disease remains localized for a very long period. Tracheotomy does not seem to prolong life much in these cases,

but if the cannula can be applied below the growth it certainly makes the patient's death easier. Schroetter¹¹⁴ has reported a case in which it was not possible to get in the cannula at all.

From the fact that some cases of tracheal carcinoma develop so slowly and show no tendency to metastases, it does not seem too much to hope for that in the near future a radical operation such as a resection of the trachea will be performed more frequently and just as brilliant results obtained as in early laryngectomy for laryngeal cancer. I have been able to find only one case in the literature in which a resection of the trachea for carcinoma was performed. This case was reported by Bruns.¹⁰³ His patient lived six years after the operation. Koschier¹⁰¹ has reported a case in which a carcinoma (cylindroma) was removed by tracheotomy, and six months after no trace of a recurrence could be detected. In tracheal sarcoma the prognosis does not appear to be extremely unfavorable. Data are lacking in regard to recurrences of tracheal sarcoma after removal. In fact practically nothing is known about it. In Gleitsmann's case of the endotracheal removal of a sarcoma there was no recurrence for about fifteen months, but soon after that the tumor did recur.

The growth of sarcoma in the trachea is very slow, the disease often extending over a period of years. Nor does the growth show any tendency to ulceration or extension to the surrounding structures.

Of the seven endotracheal operations on record for tracheal sarcoma, three cases were reported cured, although there is no record to show that they remained cured. These three cases were called cured because there was no recurrence in four or five months. In one case there was a recurrence, but the patient lived many years, and one case rapidly terminated fatally. Another patient (Gleitsmann's) lived nearly two years after the operation.

The growths in five cases were removed by tracheotomy, and in two there had been no recurrence after three months and one year. In one case there was a recurrence after two years. In two cases tracheotomy was followed by a fatal issue.

Treatment.—The treatment of the large majority of the cases of tracheal tumors may be summed up in the one word—operative. Palliative measures may be used when the growths are so small that they do not interfere to any extent with breathing, but it must be remembered that a good many of the tracheal new

growths have a fairly rapid growth, so that it is safer to remove even small growths as soon as the diagnosis is made.

Tracheotomy performed for the purpose of relieving breathing comes under the head of palliative measures, and is successful if the cannula can be inserted below the growth.

As statistics show that in over one-half of all cases tracheal neoplasms are situated in the upper third of the trachea, a low tracheotomy would relieve the patient's breathing in a majority of the cases. In cases in which the tumor is situated very low down in the trachea, a piece of a rubber stomach tube may be used in case of emergency, if a long tracheal cannula will not reach below the growth. In such cases, if the patient's condition permits it, it would be wise to attempt the removal of the growth as soon as free respiration is established. Other conditions sometimes make tracheotomy difficult and even impossible.

The patient died in one of Schroetter's cases¹¹⁴ while he was attempting to perform tracheotomy. The lumen of the trachea was so filled with the growth (carcinoma) that the cannula could not be inserted.

In inoperable cases a tracheotomy will have to be performed in any event, and in operable cases it not only prepares the way for a thorough inspection of the trachea, either with the finger or through a tube, but it is at times a necessary preliminary step to an endotracheal operation.

Endotracheal Operations.—Operations through the mouth should only be performed for small pedunculated benign growths, situated high up in the trachea. Endotracheal operations for malignant growths do not offer a much better chance of success than endolaryngeal operations for laryngeal cancer. They should not be attempted. Statistics in regard to the recurrence of tracheal sarcoma after endotracheal removal are sadly deficient.

The results of the seven endotracheal operations for sarcoma, as well as of those removed by tracheofissure, have already been given. The most favorable tumors for removal through the mouth are the papillomata, and about a dozen such operations have been performed—a majority of all endotracheal operations.

The technique is the same, except that longer instruments have to be used, as for laryngeal operations.

Children can be operated upon under general anesthesia with the aid of the Kirstein spatula.

The removal of tracheal tumor by tracheotomy, or better,

tracheofissure, is the operation of choice for the majority of the cases. Benign neoplasms of all kinds can be readily and radically removed in this way, and there is much less chance for recurrence than when they are incompletely removed through the mouth. This is particularly true of the five cases of intratracheal struma (four of Bruns and the writer's case), in which there have been no recurrences after radical operations (tracheofissure). There are about twenty such operations for different tracheal growths on record.

Mayer-Hueni¹³² removed in this way a sarcoma situated just above the bifurcation.

In performing these operations the anterior wall of the trachea should be split for a considerable distance, so as to give the operator plenty of room. Either a tampon-cannula can be used, or the operation can be performed in some cases of benign growth without it, with the patient in the Trendelenberg position.

Resection of the trachea has only been performed in one case, that of Bruns¹⁰⁴ before alluded to.

He removed a carcinoma of the posterior tracheal wall, including the posterior wall and ten of the rings, keeping the patient alive for six years.

After tracheotomy small tumors low down in the trachea may at times be removed through a cystoscope under direct inspection.

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ADDRESS TO GRADUATES OF THE SAMARITAN HOSPITAL TRAINING SCHOOL FOR NURSES.

*Delivered at the Graduating Exercises held in the Thurman Building,
Troy, N. Y., January 30, 1906.*

By G. ALDER BLUMER, M. D.,

Medical Superintendent of the Butler Hospital, Providence, R. I.

Addressing a men's club in Providence the other day, a distinguished rector related that, soon after leaving the theological seminary with his license to preach, he was suddenly called upon to take duty for a brother clergyman in circumstances that seemed to make it desirable to curtail the service. So, approaching the leading layman of the church with a certain tiptoe timorousness, he queried, "Don't you think we might shorten the service a little?" "By no means," was the emphatic response, "but you may cut out the sermon."

This instructive incident from real life recalls the experience of the preacher who, upon starting out one Sunday morning to enlighten a strange congregation, found to his dismay that his sermon had been partly destroyed by a playful young dog. It was too late to make additions or repairs, so trusting to luck, as even clergymen sometimes do, the preacher went bravely ahead with his mutilated manuscript. At the close of his discourse he fished for an estimate of his performance by interviewing the shrewd sexton. "Was the sermon too short?" he asked anxiously. "Oh dear, no!" was the reply that brought immediate though not lasting comfort. "Ah, I'm glad to hear that, for the fact is my manuscript was more than half destroyed by one of my puppies this morning." "I say," asked the sexton eagerly, "do you suppose you could manage to give a pup out of that same litter to our parson?"

TRIBUTE TO DR. FERGUSON.

These two anecdotes have an obvious bearing upon the circumstances in which I find myself this evening. Pray let me wrench the moral into an apology, and let yours be a lenient judgment. And if further excuse be needed I might add, what most of you know so well, that my old friend, Dr. Ferguson, is not the man to take no for an answer. When, therefore, he

summoned me to participation in these exercises a second time, waiving aside as futile my modest and repeated disclaimer of fitness as a preacher, and begging me to help him out, it was stipulated that my willingness to respond was conditioned upon your acceptance of such contribution, however meagre and inadequate to the occasion, as it might be within me to make. My attitude towards Dr. Ferguson is, always has been, and, so long as life endures, I trust ever will be, that of a Scotchman whose services were invoked on behalf of a brother in distress. The two were returning home under conditions of conviviality that made the ditch the natural and inevitable goal of both leader and led. "Can ye no help me oot, Tammas?" came the piteous cry from the depths. "No, Sandy, a canna help ye oot, but a'll lie doon wi' ye."

So here I am, eager enough to help if help of any sort there be in the message that I bring. A discerning American speaker once declared the essential ingredients of an after-dinner speech to be an anecdote, a quotation and a platitude. The same constituents may, and usually do, enter into utterances of a more serious sort. You have had anecdotes, and more may follow, and Heaven knows that it is easy enough to be platitudinous on all occasions. Now then for the quotation which I have selected by way of removing the impression warranted, perhaps, by what has already been said, that I intend to be wholly flippant on serious ground.

It is from John Ruskin:

"Remember, then, that I, at least, have warned you, that the happiness of your life, and its power, and its part or rank in earth or in heaven, depend on the way you pass your days now. They are not to be sad days; far from that, the first duty of young people is to be delighted and delightful; but they are to be in the deepest sense solemn days. There is no solemnity so deep, to a rightly thinking creature, as that of dawn. But not only in that beautiful sense, but in all their character and method, they are to be solemn days. Take your Latin dictionary and look out 'sollennis,' and fix the sense of the word well in your mind, and remember that every day of your early life is ordaining irrevocably, for good or evil, the custom and practice of your soul; ordaining either sacred customs of dear and lovely recurrence, or trenching deeper and deeper the furrows for seed of sorrow. Now, therefore, see that no day passes in which you

do not make yourself a somewhat better creature; and in order to do that, find out, first, what you are now."

A SACRED CALLING.

Fain would I go on with this quotation, for I am painfully conscious of boldness and unwisdom in thus perpetrating a violent descent from John Ruskin to the present speaker. And yet I may at least help you to find out what you are. For three years you have been laboring hard to gain a practical knowledge of a sacred calling. It is more than likely that during the impressionable period of your girlhood you were carried away by the glamour of nursing as a career, that you retained some of your illusions when you became a probationer, and it is certain that you very soon experienced a rude awakening. The trained nurse has been idealized of late years more perhaps than any other working woman. Her gentle, ministering ways are enshrined in stories of which she is the heroine; her professional successes are heralded from house to house, from battle field to battle field. We see her on our streets and in our houses in trim uniform, a vision of female loveliness. It is almost the exception to be within earshot of a group of quidnuncs of your own sex without overhearing the words "trained nurse" in casual utterance. Indeed, nowadays it more frequently happens that the distinguished patient under discussion has two trained nurses at her disposal, or—shall I not rather say—is at the disposal of two trained nurses. There is no factor in our whole social fabric more persistently pervasive than the trained nurse. Small wonder, then, that young women, especially those with a touch of romance in their mental makeup, should be attracted without due thought of the morrow to an arduous calling that is already overcrowded. Very few of you, I imagine, knew anything of the seamy side of your work before you began your probationary period. The sentimental and the frivolous and the generally unfit have been weeded out and here you are, fit survivors, ready to throw down the gage of battle against disease,—ready, in short, to speak in plain prose, to earn an honest living in a chosen field of labor. I say, then, that it is a solemn occasion. And, first, permit me to congratulate you upon your graduation and to bid you the cheer that is your meed and your need. I do not wish to say a single word to you that shall jar or discourage, but if, as the result of a large personal contact with

nurses, I can say aught that may be helpful, I shall feel thankful for the privilege of this brief address.

Referring to the mooted question whether nursing is a profession, on the occasion of the opening of this Nurses' Home, Dr. Ferguson used these words five years ago, "I refer to scientific nursing. I do not call it the profession of nursing, and I doubt the desirability of such a title, though the attainments of our nurses almost justify the use of the term." Were the author of this sentiment to speak to-day, I fancy he would admit that that doubt had been removed, wholly or in part, for much has been accomplished, even in so brief an intervening period, to elevate the standard of nursing in this country. A better preliminary education is exacted from the candidate, the curriculum has been extended, and these requirements, together with state registration, are making it more and more difficult to enter the fold. Someone, speaking of the trained vigilance of the modern nurse, supplementing and perfecting the watchful care of the doctor, has said, "The hands of the nurse are the physician's hands lengthened out to minister to the sick." In a lecture to the graduating class of the Johns Hopkins Hospital Training School, which it was my privilege to hear two or three years ago, Dr. E. T. Devine demurred to that simile and saw the figure of the nurse looming somewhat larger in the foreground than the words I have quoted indicate. He insisted that her hands were not an extension of the physician's, but rather an independent pair of her own, doing certain things that the physician, unless he have gifts and training of a nurse in addition, could not do at all, or, at any rate, could not do so well as the nurse does them, since she is engaged in the practice of an art which supplements that of a physician and which often involves a considerable degree of self-reliance. And he raised the question, full of all sorts of subtlety and sophistry, whether the nurse is primarily the doctor's nurse or the patient's nurse. That question need not be discussed here. It is for the individual nurse to determine, by her own outlook into the ideal, and by her own methods of practice, whether she shall be regarded, and regard herself, as plying a trade or practicing a profession. The important fact to remember is that increased advantages bring greater indebtedness, and that opportunity spells responsibility. Says Lord Bacon, "I hold every man a debtor to his profession; from the which as men of course do seek to receive countenance and

profit, so ought they of duty to endeavor themselves by way of amends to be a help and ornament thereunto."

AS A PROFESSION.

You will perceive that I am willing to look upon your calling as a profession, and disposed not to insist too strongly, in view of your higher training, upon the entire subserviency of the nurse, in all things, either to the physician or the patient. But please fix in your minds, now and for all time, the thought once so wisely expressed by Professor Jowett, "We are none of us infallible, not even our youngest." Remember, too, that the word trained as applied to one of your calling has a far wider significance than appears on the surface. It implies, however violent the assumption may be in some cases, not only medical and physical knowledge, but a great variety of other things, and anent some of these implied qualities I may be permitted a few words. Your diplomas may be taken as a sufficient warrant of your technical knowledge, but in applying that knowledge you will have much to learn every day in the great school of experience. First in the list of incidental requirements I would mention the qualities of tact and silence and bracket them as one God-given gift. Most women, it is true, are blessed with more of the former than men. It is equally true that they are credited with less of the priceless faculty of silence. Women have by nature a nicer perception of the fit, a greater respect for susceptibilities, a larger adroitness in saying exactly what given circumstances require, a pleasanter and a more cultivated aptitude in ingratiating themselves by subtle and devious approach, especially where men are concerned, insomuch that we can all frankly echo the Tennysonian sentiment:

"And loved them more, that they were thine
The graceful tact, the Christian art."

A woman without tact is a creature very much to be pitied, and a trained nurse without that quality is unfit for her calling. There is no doubt that absence of tact is more often responsible than incompetency for the ill favor with which the trained nurse is regarded in some families who have been made to suffer in consequence of that defect. Some of us have had experience with the officious person—now happily rare—whose entrance into a household is the signal for instantaneous disturbance of its

smooth machinery. Usually a young woman with an overweening sense of her own importance, her most conspicuous aptitude is that of getting everybody by the ears from the mistress of the house down to the maid in the scullery. She is controlled by the delusion, the genesis of which is a foregone conclusion in natures where self is allowed unbridled sway, that she is entitled in the household to just as much attention as the patient herself. Such nurses are rare nowadays, for considerations of policy have taught them differently even though by nature there existed that otherwise unwarranted expansion of self-feeling among them when they began tentatively to feel their way towards popular approval. One cannot insist too strongly, then, that natural tact should be regarded as a *sine qua non* to eligibility in a candidate for training. At the same time it is not to be gainsaid that as delicateness of physical touch can be cultivated—and tact means touch—till one acquires what surgeons call *tactus eruditus*, so too is tact in the sense in which it is here used also susceptible of cultivation in those who are by nature not wholly bereft of it. If you are interested, as you ought to be, in popularizing your calling everywhere, see to it then that your efforts in this direction never fail, for just as you succeed in pleasing those who employ you, in that same measure will you create a demand for your services elsewhere, and gradually extend that demand to a social class that heretofore has not enjoyed your ministrations, largely because it has feared the trained nurse and shrunk from her as from an awesome person whose services are for others in a higher social scale, not for itself.

VALUE OF SILENCE.

Of the value of silence it is more difficult to speak. Here one stands upon dangerous and debatable ground. The Abbot of a Nitrian monastery once gave one of his monks, so the story goes, as a rule of life the first verse of the Psalm beginning "I said I will take heed to my ways that I offend not with my tongue." "When you can keep that rule," said he, probably with a knowing wink, "come and I will give you another." Tradition has it that the worthy monk never returned. Now if even a monk found it impossible to observe the rule, how much more difficult would the task be for a nun, and where, pray, beset as she is with so many temptations to tell what she knows and more too, where would a poor nurse stand in the scale of dis-

cretion? The tendency to gossip—and it is by no means confined to women, however much men may flatter themselves on the score of immunity—has come down to us mortals as one of the most insidious and most agreeable weaknesses of our human nature. In vain have philosophers and poets inveighed against it from time immemorial. Was it not Horace who said:

“ For faithful silence, too, there’s sure reward ;
 Never beneath my roof or spreading sails
 Will I allow the man who blabs
 The secrets of a sacred trust.”

And the late Bishop Huntington, among his best obiter dicta, once said sagely that “ personal conversation is always dangerous inversely as the square of the distance.” What makes it all the more difficult for the nurse to steer a straight course in this matter of gossip is the undoubted fact that she is encouraged in her lingual incontinence by her patient. This extenuating circumstance should always be remembered in charity when we discover that through the medium of a trained nurse in flourishing practice full particulars concerning the length, shape, cubic and actual contents, state of decomposition, etc., of an amputated appendix have been indiscreetly disclosed to the invalid of an inquiring turn of mind. There seems to be on the part of some patients during the convalescent stage of their illness a morbid desire to be informed concerning the ailments of others, and particularly does the desire manifest itself with reference to surgical cases involving what one may perhaps call the more esoteric anatomy. It is unquestionably true, moreover, that the loosened tongue of the nurse often gives animation to a sick room, thus robbing it of much of its dullness. Still the nurse must always be on her guard and recognize that, equally with the physician, she is bound by the Hippocratic oath to which she has subscribed. Cultivate, then, that excellent quality that is the birthright of men born north of the river Tweed, to wit, caution. Personally I have found the anecdote of a brave little Scotch laddie most instructive as a lesson. His father had been arrested for some misdemeanor consequent upon taking a “ wee drappie ” more than was good for him, and the presiding magistrate was trying, with insidious art, to inveigle the leal lad into testifying against the erring author of his being. “ Where did it happen, my boy ? ” he asked most suavely. “ Ye ken Inverness street.” “ Yes, I

know it." "Weel, when ye gang along Inverness street, ye come to the Square." "Yes, that's good, go on." "And ye cross the Square and come to Dalkeith street, and then ye turn to your right along Wallace street till ye come to a wee shop where they sell baps." "Yes, yes, I remember the confectioner's." "And then ye turn to your left till ye come to a pump." "Yes, my lad, I know the pump well." "A'm glad to hear ye say so, for if you ken it weel ye maun gang and pump it, for ye'll no pump me."

But surely you will understand what I mean when I prescribe silence, and I shall have been much misunderstood if I have not made it equally clear that silvery speech has its potent uses in the sick room, especially during the long days of convalescence. We are indebted to Robert Louis Stevenson for the word "talkable" which he uses "to denote a certain distinction among the possible subjects of human speech." Dr. Van Dyke regards this distinction as an illusion, since all subjects, "the foolish things of the world and the weak things of the world, and base things of the world, yea, and things that are not," may provide matter for good talk if only the right people are engaged in the enterprise. "No," says he, "the quality of talkability does not mark a distinction among things; it denotes a difference among people." Talkability is, in short, a virtue, and talkativeness a vice. "A talkative person is like an English sparrow,—a bird that cannot sing, and will sing, and ought to be persuaded not to try to sing. But a talkable person has the gift that belongs to the wood thrush and the veery and the wren, the oriole and the white-throat and the rose-breasted grosbeak, the mockingbird and the robin (sometimes); and the brown thrush; yes, the brown thrush has it to perfection if you can catch him alone,—the gift of being interesting, charming, delighting in the most off-hand and various modes of utterance."

SERVICE AMONG THE POOR.

Among nurses who work as well with the heart as the hand, a large part of the charm of their calling comes from the opportunity for service among the poor. Those of you who are to dedicate yourselves to district nursing, if such there be in this class, are to be envied above all others. Indeed, district nursing is a branch of the work that all might follow with great advantage, if only for a season. The experience broadens alike the

sympathies and the training of the nurse, and fosters a resourcefulness that stands her well in stead when she is brought face to face at the bedside with emergencies that seldom arise in the family of comfortable circumstances, still less in the well-equipped hospital with its large staff, and where supplies in manifold abundance are ever ready to the reaching hand. Many a time the district nurse has been able to prevent what is called breaking up the home, and, strangely enough, the struggle for integrity in this regard is oftentimes keenest where it seems least worth while. To lend a hand at such a time is a blessed privilege. In all English literature I know of no more pathetic passage than one which may be found in "Sesame and Lilies," and which I will take the liberty of reading since it illustrates the highest possibilities of your mission not only of healing but of help in its broadest sense.

"An inquiry was held on Friday by Mr. Richards, deputy coroner, at the White Horse Tavern, Christ Church, Spitalfields, respecting the death of Michael Collins, aged fifty-eight years. Mary Collins, a miserable looking woman, said that she lived with the deceased and his son in a room at 2 Cobbs' Court, Christ Church. Deceased was a 'translator' of boots. Witness went out and bought old boots; deceased and his son made them into good ones, and then witness sold them for what she could get at the shops, which was very little indeed. Deceased and his son used to work night and day to try and get a little bread and tea, and pay for the room (2s a week), so as to keep the home together. On Friday night deceased got up from his bench and began to shiver. He threw down the boots, saying, 'Somebody must finish them when I am gone, for I can do no more.' There was no fire, and he said, 'I would be better if I was warm.' Witness therefore took two pairs of translated boots to sell at the shop, but she could only get 14d. for the two pairs, for the people at the shop said, 'We must have our profit.' Witness got 14 pounds of coal and a little tea and bread. Her son sat up the whole night to make the 'translations,' to get money, but deceased died on Saturday morning. The family never had enough to eat. Coroner: 'It seems to me deplorable that you did not go into the workhouse.' Witness: 'We wanted the comforts of our little home.' A juror asked what the comforts were, for he only saw a little straw in the corner of the room, the

windows of which were broken. The witness began to cry, and said that they had a quilt and other little things." This passage from John Ruskin is the more timely by reason of the recent extraordinary cropping up, as of a poisonous weed that will not down, of the doctrine of euthanasia. There has been introduced into the Legislature of Ohio, within a fortnight, a bill to legalize the murder of the aged, the sick and the injured, and, horrible to relate, the measure is being promoted by a woman. Surely here we see, under thinnest disguise, a hideous survival in man of that instinct of the lower animals which, in the brutal struggle for existence, expels the stricken member of the herd, leaving it to perish when it is not gored or trampled to death. It survives in the common expression, heard every day with respect to the special hospitals, in which my own professional life has been spent, that such an one has been "put away," the thought, more or less unconscious, being not that he has been isolated for skilled and humane treatment looking to recovery, but put out of the sight of men. Happily the trained nurse will always be able to strike a blow at such dangerous doctrines as euthanasia. My apology for this reference to-night is not so much the action taken in another state, under the auspices and arguments of a woman, as the endorsement of the measure by an eminent New England professor whose views as proclaimed broadcast in the public prints reflect a sentiment against which all hospitals, all physicians and all nurses must ever wage war. Let us recall that letter of Washington in which he speaks of the pitifulness of most ambitions of men "when compared with the minor virtue of making our neighbor and our fellowmen as happy as their frail condition and perishable natures will permit them to be."

In the hospital over which your speaker has the honor to preside, we can point with pride this year to the fact that one of our patients died after a residence within its walls of fifty-three years. Not ours to reason why the unfit survive, in apparent reversal of the Darwinian law, not for us mortal men to arrogate to ourselves the arbitrament of life or death. In view of this new doctrine of death to the dying, as promulgated from high places, let us respond rather, with freshened fervor, when we hear the sixth commandment read in our churches, "Lord, have mercy upon us and incline our hearts to keep this law."

CARE OF HEALTH.

The American conscience, we may rest assured, will never stand for wholesale unmortality, and in our day that conscience has been quickened more than ever before in all matters pertaining to health, individual as well as public. We realize that on the physical well-being of our communities depend their efficiency, their social force, their morality and their power of further evolution. So, too, on a nurse's general health must depend her happiness, her endurance of, and capacity for, work; her thinking, her feeling and her conduct. This consideration leads me to say a word on the relation of employer to employed as affecting the physical needs of nurses. People are apt to forget that they owe a trained nurse who enters their household and becomes temporarily a member of it, something more than the wages they pay her. They should see to it that in at least three other directions she receives humane consideration, namely, food, rest, and recreation. Hers, as we have seen, and as you well know, is an arduous calling. There is great wear and tear, and consequently great need for repair by nutritious food. The conditions of the sick room are often far from such as create appetite. It is important, therefore—for employer as well as nurse—that appetite be coaxed by good wholesome food of sufficient variety, properly cooked and properly served. A nurse cannot do good work on an empty stomach. Her meals should be served with regularity, and she should be relieved a sufficient length of time to eat after the manner of the average human being. It is a grave mistake to assume, as some people apparently do, that while ordinary individuals must pay the penalty if they indulge in the reprehensible practice of bolting their food, the nurse, by virtue of her occupation, is endowed with the digestive capacity of an elephant, is as regards dyspepsia immune, and may therefore make her stay in the dining room as brief as the physical act of continuous swallowing without mastication will permit. More widespread, however, is the delusion that the nurse needs no rest. It is true that when a woman chooses nursing as a profession she cannot expect while on active duty to enjoy her full physiological quota of sleeping hours. Her sleep will necessarily be broken. I submit, however, that it very often happens that there is a woeful lack of consideration for

her in cases where, by judicious management, without compromising the interests of the patient, sufficient rest might be provided. So, too, in the matter of recreation. To the employer I would say let the trained nurse have her regular outing every day, and I would even go further than this and insist that, even though her preference be to stay indoors, she be urged to go out into God's sunshine, to the end that her patient may all the more largely enjoy the sunshine of her ministering presence when she returns. Nurses who sow neglect of body reap disorder of soul, and unless that body be religiously cared for they will never be able to demonstrate what Stevenson calls "the great Theorem of the Livableness of Life." "A happy man or woman," says that cheerful writer, "is a better thing to find than a five-pound note. He or she is a radiating focus of good-will; and their entrance into a room is as though another candle had been lighted." And if it is true that the best way to live well is to work well, it is equally true that the best way to work well is to live well. Throw your whole nature into the interests of your patients and you will surely escape, more effectually than in any other way, anxiety, ennui, and the melancholy of introspection. Cultivate optimism at all hazards, but avoid, as a poisonous herb, the fatalism that saps persistent effort. And if your patient be pessimistic, tell her the fable of the two frogs and bear it ever in mind yourselves: Once there were two frogs, one an optimist, the other a pessimist. Each fell into a bowl of cream. The pessimistic frog floundered about for a while, and, long before his strength was exhausted, sank to the bottom in despair and was drowned. Not so the optimist. "There was a way into this trouble," said he, cheerily, "and there must be a way out." And sustained by that brave spirit, he struck out with steady and firm stroke till by and by he earned the ultimate reward of faith and fortitude in a safe and comfortable seat upon a pat of butter.

CASTING OFF WORRY.

I tell this fable to impress upon your minds a fact which men of your speaker's special calling have abundant reason to know. In the pursuit of happiness hardly anything in external circumstances is so really valuable as the power of casting off

worry, turning in times of sorrow to healthy work, taking habitually the brighter view of things.

“Oh, well, for him whose will is strong,
He suffers, but he will not suffer long.”

Strive then, I beseech you, with all your might, to adopt this mental attitude, and in the end you will realize what a dear old lady meant when she once said, “The weeks go by so fast that the Sundays clash against each other.”

Ladies of the Graduating Class, already I have exceeded the limits I had set myself for this address. Time and your own limitations as to patience bid me pause. The length of a sermon should always be proportioned to its breadth, measured by which test, I fear I have held your attention too long. Let me take you into my confidence, however, as I close, by telling you that a recent mot of Dr. Van Dyke has comforted me greatly in writing what has been set down as the thoughts of wiser men than your speaker, namely, “I like a writer who is original enough to water his garden with quotations without fear of being drowned out.”

And as a farewell word to you who go forth to labor, you will pardon me if for the nonce I transcend my province somewhat by recalling to your minds the promise that “the fervent, efficacious prayer of the righteous man availeth much,” and if I ask you to pray always in the spirit if not in the letter of that worker, now gone to his reward, who asked of his Master: “Give us to go blithely on our business all this day, bring us to our beds weary and content, and grant us in the end the gift of sleep. * * * Call us up with morning faces and with morning hearts—eager to labor—eager to be happy if happiness shall be our portion,—and if the day be marked for sorrow, strong to endure it. Amen.”

Editorial

There are now, happily, signs of a reaction against the recent excessively surgical tendency, which has been too dominant, toward a large view of the whole life of woman. Specialists are beginning to realize that they must broaden their view from the pathology of her organs, till lately so often doomed, if she once consulted them, to the entire problem of regimen, and know at least as much about a woman as about her pelvic diseases. Indeed, not a few experts are beginning to recognize that this larger field is relatively unknown to them, and that they must begin the study of the new or higher gynecology with something like a Socratic confession of ignorance. As long as they hold any exclusive theory which consigns to either ovaries, uterus, tubes, or central nervous system, the exclusive dominance, or assume that either the psyche or soma is always primal or causal, little progress can be made. Each of the modern views is partially correct and must always be considered as a possible aspect of each case.

Adolescence.

G. STANLEY HALL.



The alumni and friends of the Albany Medical College may well feel proud of its record as shown by the results of the examinations for medical licenses held during 1905 by the examining boards of the various states and published in the *Journal of the American Medical Association* for August 25, 1906. Table F, at page 591, shows that of the fifty-one larger schools, having fifty or more graduates examined in various states and including graduates not only of 1905 but of all years, only three schools had no candidates rejected. These three schools were the Albany Medical College, Cornell University, and Johns Hopkins University. The Albany Medical College graduates were fifty-six in number and were examined in seven different states. *All passed*, while the percentage of failures for the fourteen largest schools heading the list and having 100 or more graduates examined, varied from 2.6 to 53, and, for the entire list of the fifty-one larger schools, averaged 15.1. This is certainly a good showing for the Albany Medical College and one with which its alumni may well be gratified.

It is distinctly creditable to the Albany Medical College under this rigid test, to find itself in the highest class. But there is a deeper significance in this incident than is revealed by a mere statement of success. When the requirement of four courses of eight months each was introduced it was feared the strain upon the resources of the student was too great, and that the period of self-support was postponed to a point in years which might imperil the plan. With the uncertain results of the independent State examinations for license to practice always before him, as the ultimate obstacle to be overcome, he naturally looked for instruction which gave the best assurance of success in obtaining this license, necessary to him as a means of gaining a living, and as compensation for years of self-denial and of pecuniary outlay. His attitude was reflected by the institutions and the courses of instruction were so arranged as to store up in his mind the facts to be made available before the dreaded final tribunal.

Some three or four years ago the faculty of the Albany Medical College decided to ignore this unsavory feature of "cramming" the student for an examination and to place him in the way of getting practical knowledge. This step was taken not without misgiving. The didactic lectures were relegated to a subordinate place, the corps of instructors was increased, the classes were divided into small groups, and a strenuous personal effort was made to teach each individual student to see, to hear and to feel for himself that he might learn the revelations of the great science of medicine by actual contact with them, and not by hearing them described in a more or less flowery or coherent speech. When one reflects upon the propriety of this method of teaching, it appears incredible that any other ever should have been substituted for it. Every one knows that fifty lectures on obstetrics will not do as much for the student, as the conduct, under proper supervision, of one case of midwifery. He may read a half dozen descriptions of the technique of a suture or of a hypodermatic injection, and then grievously injure his patient in his first attempt to perform either operation. Well-drilled students who can describe cyanosis with the facility of a text-book have failed to recognize the discoloration even when contrasted with a control healthy patient. And, when once they have seen it, they have never failed in this respect again. Most ridiculous of all is the attempt to teach by lectures the specialty

of dermatology, consisting, as it does, entirely of external cutaneous manifestations! These even the highly elaborated printer's art of the present day cannot successfully reproduce, and they can only be apprehended by seeing and studying the patient. Such examples could be multiplied indefinitely.

Having thus boldly taken this important step in medical education, the Albany Medical College may well be pleased at the attending success. But the revelation should not be gratifying to the College alone. There is indicated a corresponding acquisition of good sense on the part of State examining boards, that they have so framed the supreme test that the candidate shall be proved, not to have acquired an array of academic or theoretical facts only but shall have been found qualified to exercise his knowledge upon the community. While we are minded to congratulate the College we should not deprive the State examining boards of their measure of approval.

After all, there is nothing new in this plan of instruction. Socrates used it, two thousand years ago. "He was opposed to the rhetorical teaching of the sophists, and had neither interest nor confidence in the physical speculations of his time." He realized the fitness of things by calling his method "obstetric," because "it was an art of inducing his interlocutors to develop their own ideas under a catechetical system."

What was good enough for Socrates should be good enough for us.

Little Biographies

X. SPIGELIUS.

ADRIAN VANDEN SPIEGHEL, anatomist and botanist, was born in Brussels in 1578. Vesalius, the founder of modern anatomy, also born in Brussels, antedated Spigelius by a generation or more. Many famous anatomists followed in the path of Vesalius and their names have come down to us in the common anatomical terms. Among them were Eustachius, Fallopius, Vidius, Arantius, Varolius and others. Spigelius was one of this goodly company.

The advance in the study of anatomy was but one of the manifestations of the wonderful revival of learning of the sixteenth century. This awakening of the human mind showed itself in the discovery of America by Columbus, then in the founding of the modern astronomical system by Copernicus, in the invention of printing and of gunpowder, and it was natural that new discoveries should also be made in medicine.

Spigelius's early medical studies were pursued in Louvain, about fifteen miles from Brussels. This was an important manufacturing town specially noted for its fine broadcloth. This eminence in handicraft it shared with other cities of Flanders, but it was more especially noted for its beautiful buildings and its university. Its churches were famous for their architecture and the Hotel de Ville, begun in 1447, was then and is now, one of the most beautiful Gothic buildings in the world. The University of Louvain was founded in 1426, and in the sixteenth century was one of the foremost in Europe. At this time it had more than six thousand students.

From Flanders, Spigelius followed the example of Vesalius and went to Italy, where he completed his medical studies at Padua. This was a famous university town, about twenty miles from Venice and was the birthplace of the Latin historian Livy. The university was founded in 1222 and at one time was attended by fifteen thousand students. Galileo held the chair of mathematics from 1592 until 1598, and soon after invented his telescope and discovered the satellites of Jupiter. There were other famous teachers at the university at this time; among them, in the medical school, Fabricius, under whom it was the good fortune of Spigelius to study. The surroundings of the young student must therefore have been very inspiring. After obtaining his doctor's degree, Spigelius returned to his native land. Soon after he went to Germany and established himself in Moravia, where he had been but a short time when, at the death of Casserio, he was summoned, in 1605, by his Alma Mater, to Padua, to the chair of anatomy and surgery. Here he was the direct successor of Vesalius. This position he continued to hold until his death in 1625, at the age of 47, just at the period of his greatest usefulness to science.

While at Padua he began to arrange his written works in a system, but was not able to publish it in his lifetime. It was not until two years afterward that his complete works arranged by

his son-in-law Liberalis Crema, appeared. Certain of the treatises included in this collection had been published before the death of Spigelius, among them "The Introduction to Botany (Isagoge in rem herbarium)," and a treatise concerning the tapeworm (De lumbrico late liber), and others.

Crema's edition of Spigelius's works (*Opera quæ extant omnia*) was first published in Venice in 1627, and reprinted in Amsterdam in 1645. The greater part of it consists of a treatise on anatomy (*De human corporis fabrica*) more deserving of praise on account of the systematic arrangement of the subject than for the new facts that it contained. Indeed, the main purpose of the author had been to make the study of anatomy more simple. Several discoveries are attributed to him, notably that of the small lobe of the liver, which bears his name. Among his works there is a treatise much less extensive than the one on anatomy, which gives perhaps a better idea of the skill which Spigelius possessed in presenting the outlines of a given subject with clearness and precision. It is the one that bears the title "Introduction to Botany," (*In rem herbarian isagoge*), originally published in Padua in 1606, in a quarto of 138 pages, and dedicated to the German youth who came to study at Padua. It was afterward printed at Leyden on the Elzevir Press. In this edition, it is one of the most beautiful of works on botany, and the contents are fully in harmony with its typographical excellence for it gives a most satisfactory outline of the subject as understood at that time. There are two main divisions of the work. The first is devoted to a description of the plants themselves, and the second to their uses. In general, the author follows Theophrastes as a guide, but adds certain particulars which shows that he himself was a close observer of nature. He describes methods for preserving plants by drying. In the second volume he takes up the uses of plants, making a sharp distinction between plants used for medicine and those used for food. He regards as chimerical the view quite generally held at that time that one could tell the internal properties of plants from their external appearance. This idea was known as the "Doctrine of Signatures." On the other hand, he recognized the fact that experience and even accidental circumstances had brought to light certain valuable properties of plants. He did not wish to neglect any source of information regarding such facts. He even placed some reliance on the beliefs of the country people as to the virtues

of certain plants growing near their homes. For the purpose of informing himself more fully in regard to these beliefs he traveled through many of the Italian cantons disguised as a peasant to better gain the confidence of the people. A part of the work is devoted to the subject of dietetics. In conclusion he gives an abridged history of the science of botany and recommends to his pupils that they arrange all they learn about the subject according to some systematic plan. One can see from a perusal of this work that Spigelius followed a method of study which ought to have brought about lasting results, but his influence upon his successors does not seem to have been great, and he is hardly mentioned by some of them. Linnaeus classes him among the authors who are rather obscure. Nevertheless, he has given in honor of him the name *Spigelia*, to a genus of American plants, one species of which furnishes an efficient vermifuge. This name recalls the fact that Spigelius once wrote a treatise on the tenia (*de Lumbrico late liber*), published in 1618. A fairly complete list of the writings of Spigelius is as follows:

Isagoge in rem herbarian. Padua, 1606.

De lumbrico late liber. 1618.

Catastrophe anatomiae publicae in Lycaeo Patavino absolutae. 1624.

De semitertiana libri quantor. 1624.

De formato foctu liber. 1626.

De humani corporis fabrica. 1627.

Opera quae extant omnia. 1645.

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ARTHUR TURNER LAIRD,

Scientific Review

OPSONINS AND AGGRESSINS.

The role which opsonins play in immunity against disease is so interesting and the literature so extensive that the subject is worthy a short review, and since the theory of aggressins is at first sight a directly opposite view it also deserves some attention.

Metschnikoff has shown that the white corpuscles of the blood have the power of ingesting and devouring bacteria and believes that through this cellular agency we have immunity to disease. Buchner and his school believe and have shown that immunity in some diseases at least is due not to the cells but to the fluids of the body. Wright has shown that in some diseases immunity is due not to the cells alone and not to the fluids alone but to their combined action. To do this he takes each agent entering into the act of phagocytosis, viz., the leucocytes, the bacteria and the fluid in which they move and these he studies in their various combinations, imitating of course the natural condition as to temperature and reaction of media. He found that when the leucocytes and bacteria met in an artificial normal saline media no phagocytic action took place. Also if he used as media normal serum heated to 65° C. no action occurred. And if he used serum a week old, action was again absent; but if he used fresh unaltered serum the bacteria were taken up by the leucocytes. Thus apparently some substance in the fresh unheated serum acted as a sensitizer or appetizer and this has been called by Wright, Opsonin (I prepare food). Briefly the technique of the experiment is as follows:

(1) An emulsion of bacteria is made by rubbing up a little of a pure agar culture in distilled water or normal saline;

(2) Fresh serum prepared by drawing about six drops of fresh blood into a miniature cigar shaped tube with capillary ends, sealing and centrifuging;

(3) A quantity of corpuscles free from serum prepared by dropping ten drops of fresh blood into 4 c. c. of a fluid to prevent clotting for which one per cent. sodium nitrate solution is best. Then by the settling of the corpuscles to the bottom by

centrifuging they are washed free from serum and are still in an uninjured and active condition.

Equal volumes of corpuscles, serum and emulsion of bacteria are mixed and incubated for fifteen minutes at body temperature (37.5° C.) using as incubation chamber a small test-tube, capillary tube or after the original method of Leishman a slide and cover glass.

At the end of period spread contents on glass slides and stain cocci by Leishman's, Jenner's, Wright's or Hasting's stain; tubercle by the Zeihl-Neilson-methylene blue method.

Under the 1/12 lens the number of the bacteria in the interior of the corpuscles are counted.

By similar technic with variations and modifications opsonins have been shown to have the following qualities:

They are present in almost constant quantity in the normal animal, are present at birth, are thermolabile and destroyed above 65° C. and gradually disappear on standing in about six days. They are specific and the specific opsonin may be precipitated by an emulsion of that particular variety of bacteria, are absorbed by the latter, from which they are then inseparable and are not affected by heat above 65° C.

The relative degree of phagocytosis is directly in proportion to the quantity of opsonin present.

In nature opsonins are bodies built on the type of agglutinins and analogous to Ehrlich's receptor of the second class. They are composed of two groups; a haptophore group for union with bacterial receptors and an opsoniferous group which affects the change necessary for phagocytosis. Their action is analogous to that of solutions of certain poisonous or irritating drugs which prevent phagocytosis, not by harming the leucocytes, but by preventing the sensitizing action of the opsonins.

Their proportion is greater in certain parts of the circulation than in others, being as a round foci of septic inflammation.

In healthy persons they are present in about the same ratio, but in the subjects of chronic infection by pathogenic bacteria the specific opsonin is decreased, but in proportion as it increases the infection decreases. This has been found especially true in cases of chronic infection by the tubercle bacillus, staphylococcus, pneumococcus, streptococcus, gonococcus, B. coli and B. dysenteriae, in fact in all except the B. diphtheriae and B. Xerosis.

But the point of practical importance in therapeutics is that it

has been found possible to experimentally increase the specific opsonin to a degree exceeding the normal healthy ratio, and when this can be accomplished the disease which had formerly resisted all former measures to alleviate it thus comes under control. Among the diseases in which this has been done are:

Tuberculous ulcers.

Tuberculous glands.

Tuberculosis of bones and joints.

Lupus vulgaris.

Tuberculosis of lungs, Primary.

Staphylococcus infection producing furunculosis.

Carbuncles. Acne. Sycosis.

Pyorrhoea alveolaris.

Pneumococcic infection causing chronic empyema.

Gonococcic infection causing gleet.

B. coli and *B. dysenteriae* causing chronic diarrhoea.

The line of procedure in treating a case of chronic infection so far incurable is briefly as follows:

I. First cultures and plates are made and if possible the infecting organisms are isolated.

II. A determination is made of the opsonic index, i. e., the ratio of opsonin in the blood of the infected individual to that in a healthy person; or putting it in other words, the ratio of organisms ingested by a given number of leucocytes in a given time when the patient's serum is used, to the number ingested under exactly similar circumstances when the serum of a healthy individual is used.

III. A sterilized vaccine is prepared of the organism from a pure culture on agar. In the case of the staphylococcus this should contain about 500,000,000 cocci per c. c. m. or about 1.0 mg. of dried culture. In the case of tuberculosis the vaccine should contain 1/2000-1/200 mg. of dried tubercle powder per c. c. m.

IV. Following the determination of the opsonic index a subcutaneous injection of vaccine is made, the dose varying 0.1 mg. to 1.0 mg. in coccal infections and from 1/1000-1/500 in tuberculous cases.

Subsequent treatment depends on the result of the initial injection.

The effect of an inoculation of vaccine in a healthy uninfected

individual is an immediate rise in the opsonic content of the blood.

The effect on an unhealthy infected person is the opposite. A fall or decrease which extends gradually over a number of days is the negative phase, to be followed by a return to its original height and a subsequent rise beyond, the positive phase.

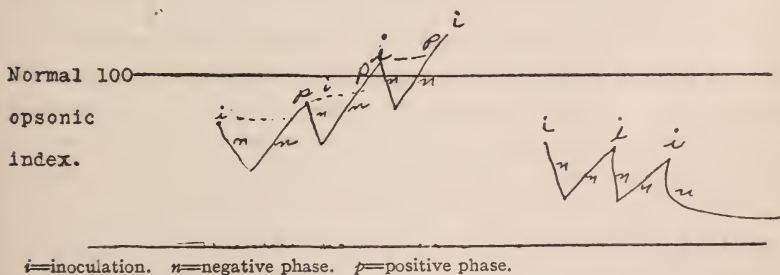
Coincidentally with the rise occurs an amelioration in the signs and symptoms of the disease, which again assumes a stationary but improved condition, and a daily determination of the opsonic index over a period shows that it also has reached a stationary but higher level.

Exceptions to this rule occur if the (1) initial dose has been too large; (2) if the machinery of immunization, i. e., the power of reaction is already overtaxed; (3) if reinoculation takes place within the negative phase.

Reinoculation of a larger dose after the positive phase has reached its height is followed by similar effects as before, the amount of opsinin being gradually increased until it is equal to or greater than normal, i. e., an opsonic index of $\frac{100}{100}$ to $\frac{150}{100}$ etc., and with this the disease shows marked improvement.

Reinoculation is therefore contraindicated until the last has produced its maximum effect as shown by the opsonic index and is entirely contraindicated in those cases in which the first injection is followed by a permanent negative phase.

Wright diagrammatically represents the two possible effects thus:



Acute or progressing diseases are apparently unsuitable for this method of treatment, due doubtless to the fact that auto-inoculation is continually taking place and that the power of reaction is already overtaxed. In active tuberculosis exercise seems to produce the same auto-inoculation effect, while perfect

rest in bed permits the reaction to the toxins already absorbed to take place and prevents the auto-inoculation of overdoses.

The Opsonic Theory in Diagnosis.

Those cases which on repeated examination show a decreased opsonic index to any organism as the tubercle bacillus are probably infected with that organism. When several organisms are present that toward which the opsonic index is lowest is probably the most important in causing the disease.

When after an injection of T. R. for diagnosis the fever reaction is negative a sudden fall of the opsonic index may be accepted as a positive indication.

Value of opsonic work in prognosis. Cases of staphylococcic infection showing a long continued negative phase after injection do not offer good hopes of cure. Cases of tuberculosis showing an even opsonic index near normal are not subject to severe auto-intoxication, and hence the disease must be quiescent or circumscribed.

In therapy its value has been already mentioned.

These observations have been verified and confirmed by Wright, Bullock, Bruce, Goadby and many others in England. By Hektoen and Ruediger, E. Walker, Adami, Klotz, J. J. Mackenzie, Simon and many others in America.

Aggressins.

To Wright's theory of opsonins which appeared in 1902, Bail's theory of aggressins appearing in 1905 was apparently the direct opposite. While one believed that absence of phagocytosis was due to lack of a special substance which sensitized the bacteria for ingestion by the leucocytes, the other believed that absence of phagocytosis was due to presence of a special substance excreted by the bacteria and capable of paralyzing the leucocytes. While one theory seems the antagonist of the other, there appear reasons why both may be true. E. L. Walker has shown that the tubercle bacillus representing the class of infectious organisms which do not cause a hyperleucocytosis excretes a toxin which has the power to inhibit the action of the leucocyte in the presence of opsonin, that the toxin and opsonin both act independently and that the ratio of influence of opsonin in favor of phagocytosis to toxin against it is as + 9 to - 11. In the other class in which the toxins absorbed cause a hyperleucocytosis as in diph-

theria, Walker found that the toxins did not prevent or inhibit phagocytosis, but aided it. According to Bail's division of pathogenic bacteria these two represent two extreme classes—the true parasite which excretes aggressive substances, which, inoculated in the least quantity can grow, and by paralyzing the cellular powers of defense spreads itself through the whole body, and the true saphrophyte which excretes no aggressive substances and develops locally.

The facultative or half parasite occupies a middle position, since it is able to spread through the body only if inoculated in quantities sufficiently great to produce enough aggressin.

Bail's argument in brief is as follows: If into the blood stream of one animal are injected simultaneously equal numbers of the anthrax bacillus and *B. subtilis*, by this means being spread equally through the various organs, and if the anthrax bacilli are able rapidly to increase while the *B. subtilis* does not although the same powers of defense are exerted against each, this must be due to only one cause, viz., that the anthrax bacilli are able to paralyze the means of defense opposing them. And to do this there must be liberated or secreted a special substance having aggressive qualities which he calls aggressin.

Among the aggressin producing bacteria which act as true parasites are the anthrax bacillus in man, the tubercle bacillus in the guinea pig and the diplococcus and staphylococcus in the rabbit.

For the purpose of experiment is employed the peritoneal exudate of a tuberculous guinea pig killed by the intraperitoneal injection of 100 mg. of fresh tubercle bacilli. By this means is obtained a fluid rich in so-called aggressive substances. If a few cubic centimetres of the exudate is injected into a healthy animal it does not become sick or show any effect. If a healthy animal is inoculated with a considerable quantity of tubercle bacilli at one time, very slight change occurs at once and the period of sickness is measured by days or weeks. But when the same doses which singly produced slight sickness are injected together or simultaneously, the animal dies in a few hours. This Bail calls the acute death. This seems to bear out his theory that the exudate contains some substance which paralyzes completely the defensive powers, leaving the bacilli to flourish unchecked.

The most characteristic postmortem findings in an animal after

the acute death are pleural and peritoneal exudates, in which lymphocytes almost exclusively exist. From whence does the aggressin arise? Is it a product of the bacteria, i. e., an excretion, or an endotoxin the result of the solution of the body substance of the bacteria, or is it produced by the reaction of the tissues to the infection. The phenomenon of Koch is taken to indicate that it is an endotoxin. Koch showed that at a certain period of the guinea pig's tuberculous sickness a state of oversensitiveness exists during which the intraperitoneal injection of a small number of fresh bacilli again results in an acute death.

This Bail attributes to the increased power possessed by the oversensitive animal for producing a bacteriolysis of the bacilli, thus setting free their endotoxin which acts as aggressin.

In his later work however Bail speaks of natural aggressins which are formed in infected animals and cannot be identified with such as are formed from body substances of bacteria. These cannot be demonstrated chemically and represent only characteristics of fluids due to products which develop in the infected body, and not mere products resulting from the reaction of the organism to the infection. Other qualities of the aggressin exudate he found. A small quantity is more aggressive than larger quantities, and a small quantity of heated exudate is more aggressive than an equal quantity unheated.

These experiments were continued with the diplococcus, staphylococcus, bacillus dysenteriae, anthrax and bacillus typhosus, all of which were shown to possess aggressive producing powers. Kikuchi produced an aggressin immunity to the B. dysenteriae by the injections of its aggressin.

This immunity protected the organism from the bacillus dysenteriae and was not characterized by the presence of increased bactericidal or agglutinating substances in the serum. This he claimed to be a new kind of immunity.

Equally successful results were obtained by Hoke with the diplococcus and by Bail with the typhoid bacillus.

At first sight this would seem to be immunity due to the fluid substances, but Kikuchi says: "The striking appearances observed with the injections (intraperitoneal) employed consisted in the rapid appearance of leucocytes in the peritoneal cavity. In proportion as the serum was weak the entrance of the leucocytes in general was delayed. *Strong phagocytosis was only to be observed in immunity.*"

From this result it does not show on the surface otherwise than that the German school headed by Bail working on aggressins has achieved the same results as the English school headed by Wright working on opsonins, viz., an opsonic immunity brought about by injection of aggressins.

Von Perquet and Schick reasoning from the similarity of results obtained by Bail to those obtained by themselves with serum in serum-sickness, believe his results to be explained, not by a new theoretical substance aggressive in quality, but simply to the formation of anti-bodies.

E. V. FREDERICK.

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Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH—CITY OF ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, AUGUST, 1906.

Deaths.

	1902	1903	1904	1905	1906
Consumption	12	16	18	15	23
Typhoid fever.....	3	3	2	3	2
Scarlet fever.....	0	0	0	0	0
Measles	0	0	0	0	0
Whooping-cough	1	0	1	1	2
Diphtheria and croup.....	2	1	1	2	1
Grippe	0	0	0	0	0
Pneumonia	0	0	0	4	2
Broncho-pneumonia	2	2	0	1	2
Bright's disease.....	8	12	15	10	15
Apoplexy	9	3	9	6	4
Cancer	10	8	7	13	10
Accidents and violence.....	6	7	7	20	9
Deaths over seventy years.....	16	18	30	24	32
Deaths under one year.....	17	36	25	24	27
Total deaths.....	126	131	161	153	170
Death rate.....	14.83	15.42	18.94	18.00	20.00
Death rate less non-residents	14.01	14.36	17.53	16.47	18.36

Deaths in Institutions.

	1902		1903		1904		1905		1906	
	Resi- dent.	Non- resi- dent.	Resi- dent.	Non- resi- dent.	Resi- dent.	Non- resi- dent.	Resi- dent.	Non- resi- dent.	Resi- dent.	Non- resi- dent.
Albany Hospital.....	11	7	5	4	7	6	12	9	10	15
Albany County Jail...	0	0	0	0	0	0	0	0	1	0
Albany Orphan Asylum	0	0	1	1	0	0	1	0	0	0
County House.....	2	0	1	0	10	2	4	0	6	1
Homeopathic Hospital.	2	0	2	2	1	0	2	1	2	1
Hospital for Incurables	0	0	2	0	0	0	1	0	2	0
Public Places.....	1	0	0	0	1	0	0	1	1	2
St. Francis de Sayles Orphan Asylum.....	0	0	2	0	0	1	0	0	0	0
St. Margaret's Home..	0	0	2	1	0	0	4	2	0	0
St. Peter's Hospital...	6	0	3	1	7	3	6	0	4	0
Home for Aged Men...	0	0	1	0	3	0	0	0	0	0
Births at term.....										94
Still births.....										5
Premature births.....										3
Marriages										70

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

In the Bureau of Plumbing, Drainage and Ventilation there were one hundred sixty-one inspections made during the year, of which one hundred eight were of old buildings and fifty-three of new buildings. There were thirty-five iron drains laid and sixteen connections with street sewers, thirty tile drains, six urinals, fifty-six cesspools, fifty-seven wash basins, forty-four sinks, thirty-nine bath tubs, twenty-four wash trays, two butlers' pantry sinks, seven trap hoppers in yard, eighty-seven tank closets, one slop hopper, and eight shower baths. There were one hundred eleven permits issued, of which eighty-nine were for plumbing and twenty-two for building purposes. There were twenty-two plans submitted, of which ten were of old buildings and twelve of new buildings. There were six houses tested on complaint, three with blue, red and three with peppermint. There were nine water tests. Fourteen houses were examined on complaint and sixteen reinspections were made. Eight complaints were found valid and six without cause.

BUREAU OF CONTAGIOUS DISEASE.

Cases Reported.

	1902	1903	1904	1905	1906
Typhoid fever.....	9	11	21	12	23
Scarlet fever.....	5	3	1	3	7
Diphtheria and croup.....	20	10	9	5	12
Chickenpox	2	1	0	0	0
Measles	1	4	0	2	0
Whooping-cough	0	0	1	0	0
Consumption	0	3	2	4	0

CONTAGIOUS DISEASE IN RELATION TO PUBLIC SCHOOLS.

None Reported.

Number of days quarantine for diphtheria:					
Longest.....	52	Shortest.....	12	Average.....	23
Number of days quarantine for scarlet fever:					
Longest.....	32	Shortest.....	8	Average.....	20¼
Fumigations:					
Houses.....	24	Rooms.....			57
Cases of diphtheria reported.....				12	
Cases of diphtheria in which antitoxin was used.....				11	
Cases in which antitoxin was not used.....				1	
Deaths after use of antitoxin.....				1	

Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY MEDICAL COLLEGE.—The Introductory Lecture of the Seventy-sixth Session was delivered by Professor Samuel B. Ward, M. D., Dean of faculty, in the Amphitheatre of the College, on Tuesday, September 25, 1906, at 12 M.

ALBANY GUILD FOR THE CARE OF THE SICK. STATISTICS FOR AUGUST, 1906.—Number of new cases, 116; *classified as follows*: dispensary patients receiving home care, 1; district cases reported by the health physicians, 10; charity cases reported by other physicians, 53; patients of limited means, 52; old cases still under treatment, 66; total number of patients under nursing care during the month, 182. *Classification of diseases* (new cases): medical, 32; surgical, 8; obstetrical work of the Guild, 38 mothers and 38 infants under professional care; transferred to hospitals, 3; deaths, 9.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 2; attending obstetricians, 2; medical students in attendance, 1; Guild nurses, 2; cases, 3; number of visits by the medical students, 28; by the attending obstetricians, 6; by the Guild nurses, 29; total number of visits for this department, 63.

Visits of Guild Nurses (all departments): number of visits with nursing treatment, 1,375; for professional supervision of convalescents, 138; total number of visits, 1,533. Six graduate nurses and 3 assistant nurses were on duty. Cases were reported to the Guild by 3 of the health physicians and by 31 other physicians.

STATE SANITARY CONFERENCE.—The Sixth Annual Conference of State Sanitary Officers will be held, as has already been announced, in the City Hall of Syracuse, N. Y., October 24-26th.

One of the most prominent features of the Conference will be the tuberculosis exhibition to be held in connection with it. In addition

there will be four sessions devoted chiefly to the consideration of the various aspects of the anti-tuberculosis movement.

While the subject of tuberculosis will be a prominent feature of the Conference, other topics will be far from neglected.

The following tentative program is now issued and, although two of the gentlemen who have been invited to read papers have not been able as yet to reply to the invitation, the others have accepted the invitations extended to them, and will be present, thus insuring a most profitable and interesting Conference which no health officer can afford to miss.

Special notices and invitations will shortly be sent to every health officer and to every president of a board of health, urging the latter to arrange for the attendance of their health officer at the Conference meeting.

Special railroad rates of a fare and one-third have been provided on all lines.

Provisional Program.—First Session, Wednesday, 2 P. M.:

Addresses of Welcome, Hon. Alan C. Fobes, Mayor of Syracuse; Hon. Giles H. Stilwell, President Chamber of Commerce; Hon. James R. Day, Chancellor Syracuse University.

Opening Address, Eugene H. Porter, M. D., State Commissioner of Health.

Meat Inspection, A. D. Melvin, M. D., Chief of the Bureau of Animal Industry, Washington, D. C.

Adulteration of Foods, Charles Harrington, M. D., Secretary State Board of Health of Massachusetts, Boston, Mass.

Second Session, Wednesday, 8 P. M.:

Value and Importance of Modern Sanitary Methods, Hon. Sherman Moreland, Leader of Assembly, State of New York.

The Scope and Value of the Sanatorium in the Anti-tuberculosis Movement, Herbert M. King, M. D., Physician-in-Chief of the Loomis Sanatorium, Liberty, N. Y.

Some Aspects of Sanatorium Life (illustrated), Lawrason Brown, M. D., Resident Physician, Adirondack Cottage Sanatorium, Saranac Lake, N. Y.

Third Session, Thursday, 9:30 A. M.:

The Powers and Duties of Local Boards of Health and Local Health Officers, Hon. William J. Tully, Member of Senate, State of New York, Corning, N. Y.

The Principles of Water Purification, Leonard M. Wachter, Chemist and Bacteriologist, Albany Filtration Plant, Albany, N. Y.

The Nature of Sewage and its Proper Disposal, John A. Amyot, M. D., Director Laboratory Provincial Board of Health of Toronto, Toronto, Ont.

Fourth Session, Thursday, 2 P. M.:

Heredity, Portals of Entry of Infection and Immunity in Tuberculosis, M. P. Ravenel, M. D., Assistant Director Henry Phipps Institute for the Study of Tuberculosis, Philadelphia, Pa.

Demonstrations of the Tuberculosis Exhibition, Statistical and Clinical Exhibitions, demonstrated by a number of prominent physicians.

Exhibit of Tuberculosis of Animals, in charge of Prof. V. A. Moore, New York State Veterinary College, Ithaca, N. Y.

Pathological and Bacteriological Exhibit of Human Tuberculosis, in charge of H. S. Steensland, M. D., Adjunct Prof. of Pathology, Syracuse University.

Fifth Session, Thursday, 8 P. M.:

The Tuberculosis Dispensary and Municipal Hospitals for the Tuberculous, Herman M. Biggs, M. D., President National Association for the Study and Prevention of Tuberculosis, New York.

Quackery and Tuberculosis, Samuel Hopkins Adams, Esq., New York City.

Sixth Session, Friday, 9:30 A. M.:

Symposium on Disinfection, with Demonstrations.

Gaseous Disinfectants, H. W. Hill, M. D., Assistant Director Laboratory Minnesota State Board of Health, Minneapolis, Minn.

Fumigation for the Destruction of Insects, H. D. Pease, M. D., Director Antitoxin Laboratory, New York State Department of Health, Albany, N. Y.

Seventh Session, Friday, 12 M.:

It is expected that a trip to the Tully Lake Dairy Farms will be arranged for the members of the Conference on this afternoon, the details of which will be announced later.

Eighth Session, Friday, 8 P. M.:

Personal Hygiene in the Prevention of Tuberculosis, J. L. Heffron, M. D., Syracuse, N. Y.

The Home Treatment of Tuberculosis, S. A. Knopf, M. D., New York City.

CIVIL SERVICE EXAMINATIONS FOR THE STATE AND COUNTY SERVICE.—The State Civil Service Commission will hold examinations on October 12, 1906, for typewriter copyist (male) in the Kings county offices; and on October 13, 1906, for archeologist, State Education Department, \$900; assistant bacteriologist, \$1,500, and assistant sanitary chemist, \$720, in the State Department of Health; court clerk, Westchester county; pen copyist, Kings county offices; pupil nurse, Erie County Hospital; trained nurse, Westchester County Hospital.

The last day for filing applications for these positions is October 8th. Full information and application forms for any of these examinations may be obtained by addressing the Chief Examiner of the Commission at Albany,
CHARLES S. FOWLER, *Chief Examiner*.

AMERICAN SURGICAL TRADE ASSOCIATION.—At a meeting of the American Surgical Trade Association held in Philadelphia, June, 1906, it was resolved that after January 1st, 1907, the trade adopt the French scale for all catheters, bougies and sounds. A committee was ap-

pointed for the purpose of getting up a proper and accurate French scale card. Every physician will see the importance of this step as you are all acquainted with the annoyance of having catheters, bougies and sounds, and other instruments marked in American, English or French numbers. Surgeons are requested to use only the French scale in ordering such goods and when no scale is specified, orders will be filled by the French scale.

PERSONAL.—Dr. GEORGE BLUMER, for several years Professor of Pathology at the Albany Medical College and Director of the Bender Hygienic Laboratory, recently of San Francisco, has been appointed Professor of Medicine at Yale University. On August 20th last Dr. Blumer and Miss Anna Evans were married at San Diego, California, and have now taken residence at 204 York street, New Haven, Conn.

—Dr. EDWARD S. COYLE (A. M. C., 1882), formerly of Ballston Spa, N. Y., has removed to Schenectady, N. Y.

—Dr. JOSEPH A. LANAHAN (A. M. C., 1899) has removed from 31 Jefferson street to 1 South Hawk street, Albany, N. Y.

--Dr. ARTHUR A. WILL (A. M. C., 1900) has removed to 437 West 12th street, Oklahoma City, Oklahoma.

—Dr. KENNETH D. BLACKFAN (A. M. C., 1905), who has been engaged in post-graduate study at the Bender Hygienic Laboratory, has begun practice at Cambridge, N. Y.

MARRIED.—KEATOR-LAING.—Dr. Frank Keator (A. M. C., 1903) and Miss Jessie Helen Laing were married in Albany on September 15, 1906. Dr. Keator is established in practice at Kingston, N. Y.

—VAN HOESEN—GAUGER.—Dr. Isaac G. Van Hoesen (A. M. C., 1903) and Miss Marie Gauger were married at the Church of the Redeemer, Albany, N. Y., on September 25, 1906. Dr. and Mrs. Van Hoesen will reside at Coxsackie, N. Y., where he is well established in practice.

In Memoriam

WILLIAM A. BLISS, M. D.

Dr. William A. Bliss, who graduated from the Albany Medical College in 1866, died at home August 19, 1906, aged sixty-five years. Dr. Bliss began practice in Brooklyn in the spring of 1866, and was a "busy physician and hard worker," to use his own modest words, in a letter for his class history. In 1893 he retired and moved to Fishkill-on-the-Hudson, but returned to Brooklyn in 1899, and remained in his old home until the time of his death.

WILLIAM D. WALRADT, M. D.

Dr. Wm. D. Walradt, of Castleton, died at the Albany City Hospital, September 6, 1906, after an illness of about two weeks.

Dr. Walradt was born in Cherry Valley. He graduated from the High School and then attended the Medical College in Albany, graduating with the class of 1878. He practiced for a short time in Massachusetts, and then located in Castleton, where he lived for over twenty-five years. He was a successful physician, and had a large practice.

Dr. Walradt leaves his widow, one son and one daughter.

REYNALDO J. FITZGERALD, M. D.

Dr. Reynaldo J. Fitzgerald, a graduate of the Albany Medical College, in the class of 1882, died at his home in Minneapolis, August 18, 1906, aged 45, as the result of disease contracted in the Philippine Islands. Dr. Fitzgerald was a member of the Association of Military Surgeons of the United States; surgeon of the the Thirteenth Minnesota Infantry, U. S. V., and on duty with that command in the Philippine Islands; a member of the state and county medical societies; the first man to volunteer at the organization of the Minnesota National Guard in 1882, and major-surgeon in that regiment during the Spanish-American War; medical director of the Minnesota National Guard, with the rank of colonel, on his return to the United States, and at the time of his death major and surgeon National Guard of Minnesota and assigned to the First Infantry. He was a prominent practitioner of Minneapolis.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

A Non-Surgical Treatise on Diseases of the Prostate Gland and Adnexa.
By GEORGE WHITFIELD OVERALL, A. B., M. D., Chicago. Rowe
Publishing Co., 1906.

This book of 228 pages is devoted to an exposition of the author's views on diseases of the prostate and adnexa and his special methods of treating the same. He employs instruments, for the most part, devised by himself and makes use of injections, the various modifications of electro-therapeutics, vibrators, etc. The author is opposed to surgical treatment except in extreme cases; even in cases of true hypertrophy of the prostate, he prefers to "hammer at the prostate both through the rectum and urethra until the indurated tissue begins to soften, then atrophy." He states that in some cases from six to twelve months of treatment is necessary to reduce the gland to that extent where the urine can be voided without the use of a catheter.

There is an appendix containing chapters on electro-physics, electrolysis, cataphoresis and high frequency currents.

J. M. B.

Anatomy, Descriptive and Surgical. By HENRY GRAY, F. R. S. Edited by T. PICKERING PICK, F. R. C. S., and ROBERT HOWDEN, M. A., M. B., C. M. New American Edition. Thoroughly revised and reedited with additions by JOHN CHALMERS DA COSTA, M. D., illustrated with 1,132 elaborate engravings. Philadelphia and New York: Lea Brothers & Co., 1905.

During the last fifty years Gray's Anatomy has passed through numerous editions but the present is the most extensive revision that has ever been undertaken. In it the authors have attempted to represent the world's best knowledge and have thus freely consulted English, American, French and German text-books, monographs and journal articles. The text has been changed to a great extent, several chapters having been entirely rewritten. The nomenclature adopted by the international commission of anatomists has been introduced as synonyms, thus adding greatly to the value of the work.

It has always been the aim of Gray to treat the subject of anatomy from a practical standpoint, especially in its relation to surgery. For this reason it has always found favor with the majority of students and practitioners. The scope of the subject matter of the present edition is essentially the same as that of the former ones. It may, therefore, not entirely meet the present-day demands of those who pursue the study of anatomy from a more general standpoint.

In glancing through the pages we note that Gerrish, Cunningham, Toldt, Spalteholz, Poirier and Charpy and Testut have been consulted freely and numerous illustrations have been borrowed from these works.

G. E. B.

A Laboratory Manual of Physiological Chemistry. By ELBERT W. ROCKWOOD, M. D., Ph.D., Professor of Chemistry and Toxicology and Head of the Department of Chemistry in the University of Iowa, etc. Second edition, revised and enlarged. With one colored plate and three plates of Microscopic preparations. Large 12mo, 229 pages, extra cloth. Price, \$1.00, net. F. A. Davis Company, Publishers, 1914 Cherry Street, Philadelphia, Pa.

This second edition of Professor Rockwood's manual appears in the same form as the previous one. The original plan is retained but the revision has taken the course of addition of new subject matter to cover the advances made in physiological chemistry during the past few years. The author has succeeded in making the various topics under discussion exceptionally complete, and the student who performs all of the experiments outlined should obtain a rather comprehensive grasp of the subject. Unfortunately in most of our medical schools, the time allotted in the curriculum would fall far short of that necessary to encompass the work suggested. The explanation of the work is clear and concise and no difficulty should be found in following the directions even without the aid of special instruction. The book should continue to be used as a satisfactory manual.

H. C. J.

Golden Rules of Surgery. Medical Guides and Monographs Series. Aphorisms, Observations and Reflections on the Science and Art of Surgery. Being a guide for Surgeons and those who would become Surgeons. By AUGUSTUS CHARLES BERNAYS, A. M., M. D., Hd1bg., M. R. C. S., Eng. St. Louis: The C. V. Mosby Medical Book Co., 1906.

This little book of 232 pages is designed by the author to be a guide to surgery both for those who consider themselves surgeons and for those who would become surgeons. The qualifications of the author to write a book of this character are based on a surgical experience of some thirty years embracing remembrances of the pre-antiseptic as well as the pre-aseptic periods of surgery. The text is taken in part from Fenwick's "Golden Rules of Surgery," but much has been added that is new and original.

The reader finds in this little volume much wholesome philosophy and valuable advice. For the ignorant or over-zealous there are numerous warnings and cautions and the work is everywhere permeated with an amusing and at times biting sarcasm. The author takes the opportunity to air some of his pet theories and to bring to the attention of the profession some of his important work. He expresses the hope that his "philosophical casueries" may at least amuse the reader if they fail to convince him.

Some idea of the character of the work can be conveyed by quoting the titles of the various sections. They are as follows:

"The Education of a Surgeon," "On Scientific Contributions to the Literature of Medicine and Surgery," "Science and Surgery," "On Ways and Means of Building Up a Practice," "About Fees," "Off with the Cloak

of Superstition," "Some Golden Rules of Surgery," "Away with Inflammation and the Confusion it has Caused."

The book closes with an interesting section on "Reminiscences" of the author's medical studies in Germany under the great anatomist Gegenbauer, the great surgeon Langenbeck and other famous contemporaries.

J. M. B.

Diseases of the Eye. A Handbook of Ophthalmic Practice. By G. E. DESCHWEINITZ, M. D., Professor of Ophthalmology in the University of Pennsylvania. Fifth edition, revised and enlarged. Octavo of 894 pages, 313 text-cuts and 6 chromo-lithographic plates. Philadelphia and London: W. B. Saunders Company, 1906. Cloth, \$5.00 net; Half Morocco, \$6.00 net.

The preparation of this edition constitutes a part of the good work for which the profession is indebted to the author. The purpose of the work is very modestly stated in the first paragraph of the preface—that it is for the use of those who desire to *begin* the study of ophthalmology. Many ophthalmic *practitioners* will study the work advantageously. Of course no author of such a treatise can properly claim to have distanced all rivals, nor is it fair to claim for this book a value entirely peculiar to itself. Yet it excels, as its former editions have, in some special ways. It suggests the ways in which advance is prospective—an important encouragement to the "busy practitioner" as well as to the careful student, at any stage of advancement. The consideration of seemingly irremediable affections is not summarily dismissed, but the reader is told what is hoped, by reputable investigators, will prove to aid toward or effect a cure. In the prefaces of the first and last editions, leadership, in the matters which they have discussed in the book, is conceded to men like Jackson and Wallace. This redounds to deSchweinitz's honor; he could, doubtless, discuss those same matters well, himself, but the reference of the matters in question to men who are generally admitted to have devoted peculiarly successful attention to them, shows that the author seeks *the best* for students of his book. The simplified spelling in the work is not very peculiar nor exaggerated, but modern enough to be exemplary and harmonize with the general spirit of the book. Its freedom from ultra-scientific dryness is another praiseworthy feature of the treatise.

Saunders Company has done its part of the book's preparation well. All books should have very legible type, as this one has. A book about human eyes has a somewhat special duty, in this respect. The paper is thin enough to avoid the annoying feeling of grossness that too heavy paper has, while it is thick enough that the legend of the next page is not legible till the leaf is turned. The illustrations are really representative. The aggregate will make a valuable part of the library of any ophthalmologist; the reviewer wishes he might be surely warranted in substituting *every* for *any* in the preceding sentence.

C. M. C.

Case Teaching in Medicine. A series of graduated exercises in the differential diagnosis, prognosis and treatment of actual cases of disease. By RICHARD C. CABOT, M. D., Instructor in Medicine in the Harvard Medical School and Physician to Out-Patients at the Massachusetts General Hospital. A book of 214 pages, published by D. C. Heath & Co., Boston, Mass., 1906.

Seventy-eight cases are presented in this work. The history of each case is first given, together with the results of the physical examination and clinical findings. This is followed by a series of questions as to the significance of the various data, and then the diagnosis, prognosis and treatment are discussed. An index is present, first of the signs and symptoms, and, secondly, of the symptoms arranged by systems of organs.

The method of using the cases is as follows:

(1). The teacher reads aloud the case to be discussed, while the students follow it in their case books from which the diagnoses and answers to all questions are omitted.

(2). A member of the class is next called upon, by name, to summarize the case, point out whether it is acute or chronic and what organs or systems are especially involved.

(3). The students are given five or ten minutes to think over the case and then each writes and hands in, on a slip of paper, a tentative diagnosis and one or two alterations, signed by his name.

(4). The case is now discussed, the various diagnoses handed in are considered and the reasons for or against each one.

(5). The actual diagnosis of the case as proved by operation, autopsy or the course of the symptoms is then given.

(6). Finally the prognosis and treatment are considered.

The cases presented are those which are likely to be encountered by the general practitioner.

The author states that "the most important lesson to be learned by every student of medicine is the art of recognizing the physical signs of disease—a displaced cardiac apex, a succussion sign, an Argyll-Robertson pupil, a malarial parasite. With these basic facts one can become familiar only by direct contact with patients and by long practice."

"The art of recognizing the physical signs of disease" is undoubtedly a most important lesson, but are there not others so important that the above mentioned one can not be considered the most important one? Only by a knowledge of pathological processes and how they alter the normal anatomy, thus giving rise to pathological anatomy and how this, in turn, alters the normal physiology, causing pathological physiology, can the student correctly interpret the physical signs of disease. These important lessons in the science of disease form the rational basis, not only for the interpretation of the physical signs as detected by the art of physical examination, but also in the diagnosis, prognosis and treatment of diseased conditions.

As correctly stated by Dr. Cabot, the data gained from a study of a case have to be interpreted and worked up into a diagnosis by a reasoning process and this process needs practice. The object of this book is

to aid the teacher in training his pupils in the practice of thinking clearly, cogently and sensibly about the data gathered by physical examination. The idea is an excellent one and deserving of a more general adoption in all branches of medicine than has been accorded it in the past, for it makes the student think and reason, rather than try to remember. Case teaching, as presented by Dr. Cabot, is a most admirable method of testing the student's ability to use what he has acquired in previous important lessons and making him review these lessons, for truly only by practice does he become proficient.

We, the medical profession, and especially those of us who teach, are indebted to the author of this book for presenting it to us and for his many valuable suggestions derived from his experience in case teaching exercises during the past eight years.

J. A. S.

A Treatise on Surgery. In two volumes. By GEORGE R. FOWLER, M. D., Examiner in Surgery, Board of Medical Examiners of the Regents of the University of the State of New York; Emeritus Professor of Surgery in the New York Polyclinic, etc. Two imperial octavos of 725 pages each, with 888 text illustrations and 4 colored plates, all original. Philadelphia and London: W. B. Saunders Company, 1906. Per set: Cloth, \$15.00 net; half morocco, \$17.00 net.

The second volume of this excellent work is devoted to a continuation of the consideration of Regional Surgery, the first three sections of this subject, viz., the sections on the surgery of the head, neck and thorax, having been considered in Vol. I. Vol. II is made up of five sections with subject titles as follows: "Surgery of the Dorsal and Lumbar Vertebrae." "Surgery of the Abdominal and Pelvic Regions." "Surgery of the Female Pelvic Organs." "Surgery of the Upper Extremity." "Surgery of the Lower Extremity."

This second volume shows the same general character of work as did Vol. I. The text is concise, direct and clear and is not overburdened with differentiations and discussions of discarded or worthless theories. In the consideration of the operative treatment of the various surgical diseases no attempt is made to describe all the operative measures for their relief; only those operations are discussed which are generally considered to be the best. Frequently the author confines himself to the description of only one operative method of treatment; the one which, in all probability, he considers the best. The book as it stands is a working surgery. The reader feels that the author knows what he is writing about from personal experience. The illustrations of this volume have the same high degree of excellence which characterizes those in volume I. They are all original.

Certain paragraphs and statements in the book are of interest as showing the author's views on various subjects.

It is now being generally conceded that carcinoma of the stomach is as much a surgical as a medical disease. The author says: "The

symptoms and diagnosis of cancer of the stomach are usually relegated to the domain of internal medicine. It is well, however, for the surgeon to bear in mind the following points: (1) the ordinary methods of diagnosis of the physician, particularly laboratory methods, are usually untrustworthy in the stage of the disease when surgical art can be of the greatest help to the patient; (2) exploratory incision is a trustworthy, practically dangerless and almost indispensable diagnostic resource; (3) to wait for the development of a palpable tumor is to condemn to death the large majority of these cases; (4) cancer of the stomach can not be excluded because of the absence of symptoms of pyloric obstruction, since advanced disease of the body of the organ may be present; (5) a history of previous gastric ulcer, instead of delaying should rather arouse suspicion of cancer. It is now believed that ulcer of the stomach is an important factor in the causation of cancer.

The most important indication for radical operation in cancer of the stomach is movability of the involved parts.

The author advocates exploratory incision and when radical operation is not indicated he advocates gastro-enterostomy as a palliative operation. In performing the operation of gastro-enterostomy the author advises entero-enterostomy below to avoid the complication known as vicious circle.

The subject of appendicitis receives careful attention. A quotation in regard to the prognosis of appendicitis is as follows: "The prognosis of appendicitis is unfavorable in the cases treated without operation in proportion to the severity of the infection; in the cases treated operatively, other things being equal, the prognosis is unfavorable in proportion to the delay in performing the operation." In operating for appendicitis where no pus is present the author favors the intermuscular incision and describes and illustrates McBurney's method and his own. In the treatment of general peritonitis, he advocates the upright position following incision and drainage; but, contrary to some surgeons of to-day, he advocates irrigation of the peritoneal cavity.

The chapter on hernia is well written and the illustrations are numerous and well chosen and add much to the value of the text.

The author states that Edebohl's operation of decapsulation of the kidneys for chronic Bright's disease has not been generally accepted by the profession up to the present time.

In the diagnosis of enlarged prostate the author believes that the use of the cystoscope does not give material aid and may be injurious. He gives a gloomy outlook for cancer of the prostate. "Radical operative measures have heretofore failed, the patients who have recovered from the operation having died within a few months of recurrence."

The two last sections in this volume are on the "Surgery of the Upper Extremity" and "Surgery of the Lower Extremity." The manner of treatment of these subjects and the numerous helpful and original illustrations make these sections two of the most valuable in the whole book.

The volume closes with an index of names, subject index and a general index for the two volumes.

OBSTETRICS

Edited by James P. Boyd, M. D., and H. Judson Lipes, M. D.

Metrorrhagia Myopathica.

BROOKE M. ANSPACH. *The American Journal of Obstetrics*, January, 1906.

Metrorrhagia myopathica is defined by the writer as that form of uterine bleeding which is independent of the usual causes of metrorrhagia, and is produced by a pathologic condition of the uterine muscle. This symptom usually manifests itself toward the close of the child-bearing period when excessive uterine haemorrhage between the periods, in the absence of the accepted causes of this abnormality, often remains an enigma. The terms apoplexia uteri, endometritis, senilis, preclimacteric bleeding, et cetera, are often loosely applied. Apoplexia uteri presupposes arteriosclerotic changes in the uterine arteries, with an actual rupture of one of these unhealthy vessels. The writer has not observed this condition in the examination of over three hundred uteri and consequently believes it to be exceedingly rare. Even if this condition existed Reincke holds that it alone cannot account for persistent metrorrhagia, and in some cases where the vessels showed arteriosclerotic changes there was no metrorrhagia. In the uterus arteriosclerosis normally the result of the development and subsequent involution is indelibly associated with pregnancy.

In considering the normal anatomy the writer quotes Pick, who has drawn particular attention to the arrangement of the elastic tissue in the uterus which is of greatest importance in the consideration of this subject. The preponderance of the fibrils in the subserous and supra-vascular layers, their definite direction (centripetal) towards the endometrial cavity, their fine subdivision so that in the outer layer they surround each individual muscle cell, all of this he believes shows they have a very well defined purpose, that is, the support of the blood and lymph capillaries and the nerves, and further they reinforce the muscular action of the uterus, protect it from being overstretched and make easier its return to a passive state after either distention or contraction.

If there is an atrophied parenchyma the vis a tergo is supplied by the new formed elastic tissue. That this preservation of uterine tone is necessary during menstrual life and that the increase of elastic tissue which accompanies the diminution of the muscle elements is a provision of nature cannot be gainsaid. The contractile power of the uterus plays an important part in the phenomena of menstruation as it does in any haemorrhage from the uterus.

It is natural, therefore, at the close of menstrual life, that the muscular elements having no further uses should undergo atrophy, and that the intra-vascular area of the organ should be diminished by sclerotic changes in the blood-vessel walls, and that this should be furthered, as it is in other organs, by an increase of elastic tissue which helps contract the vessels and takes the place of lost parenchyma. It is easy to see, therefore, that a failure in the normal increase of elastic tissue or a failure in the

normal obliterative changes of the vascular channels, or an excessive hypertrophy of connective tissue (making firm contraction of the uterus and compression of the blood vessels more or less faulty) might result in disturbances of the endometrial circulation and produce profuse menorrhagia or metrorrhagia.

The writer reports a number of cases of uncontrollable metrorrhagia only three of which he classifies under "metrorrhagia myopathica." In the remaining cases conditions were found after operation which might explain the trouble upon other grounds.

After a careful study of these cases the author reached the following conclusions:

(1) Metrorrhagia myopathica stands for a distinct class of cases, which have heretofore been variously and incorrectly grouped under apoplexia uteri, endometritis senilis and preclimacteric bleeding.

(2) Metrorrhagia myopathica is a symptom immediately dependent upon an anatomical or a physiological lesion of the uterine muscle.

(3) No anatomical lesion has as yet been demonstrated, but it will probably be found in the elastic tissue constituents of the vessel walls and the subserous and supra-vascular layers.

(4) The physiological lesion is most likely an insufficient contractile power of the uterus. It is possible that the condition is purely functional and that there is no anatomical change which can be recognized.

(5) In cases of metrorrhagia myopathica the uterus is enlarged and softened; the os is patulous.

(6) Metrorrhagia myopathica does not occur in nulliparous women and therefore it must have some connection with the child-bearing process.

(7) The diagnosis of metrorrhagia myopathica is only justified when all other possible causes for uterine haemorrhage have been excluded. This cannot be too strongly urged, especially in reference to carcinoma.

(8) The terms apoplexia uteri, senile endometritis, and preclimacteric bleeding as applied to these cases are incorrect and unscientific.

(9) While curettement, atmocausis, etc., has little effect in cases of metrorrhagia myopathica, palliative measures should always be tried before adopting hysterectomy.

Obliteration of the endometrial cavity by means of destructive atmocausis is the alternative of hysterectomy in these cases. It is, however, harder to perform correctly and more dangerous than hysterectomy, which is the operation of choice.

Fibroma Molluscum Gravidarum, a New Clinical Entity.

BRICKNER. *American Journal of Obstetrics, February, 1906.*

The writer appreciates the fact that it is a precarious undertaking to hazard the description of a new clinical entity although the study embodied in his report has been most scrupulously and zealously threshed out, and the search of the literature has been as complete as the facilities have permitted. To the condition described he has given the name of

fibroma molluscum gravidarum, for the reasons that clinically and pathologically the lesion corresponds with fibroma molluscum as known and described by dermatologists and that the form discussed in his paper appears only during pregnancy. The author has observed nine cases. This condition first appears usually about the fourth or sixth month of pregnancy, as small, slightly pigmented or non-pigmented sessile or pedunculated excrescences, which increase slowly in number as pregnancy advances, until at full term there may be as many as forty or fifty, or they may appear in limited number, not increasing or diminishing during the further period of gestation. The previous state of the patient's cutaneous health has no bearing upon the appearance of these fibrous nodules. Within from a few weeks to a few months after delivery these excrescences lose their pigment, assuming the color of the adjacent skin, and gradually disappear. No symptoms, apart from the eruption, are observed. There is no pain, nor itching, nor any discomfort. No sensitive nerve, nor inflammation.

In regard to the distribution of these lesions, they are found on the sides of the neck, and in front of it near the sterno-clavicular articulation, sometimes between the clavicles and breast or under the breast. In the ordinary fibroma molluscum, the distribution is general over the body and is even seen on the mucous membranes. The later position has never been noted in fibroma molluscum gravidarum. The lesions differ also from those of the common variety in that they do not attain large size. Until regeneration begins they do not attain the color of the normal skin and upon their disappearance they leave no traces whatever. This is not true of the ordinary form since the later lesions leave behind an empty little bag of skin representing the degenerated growth.

The etiology is obscure but the condition probably arises from some disturbance of metabolism.

The histological description shows that the excised tumors are round or oblong in shape, somewhat irregular or papillomatous on the surface and measure from 1.5 to 3 mm. in their long axis. Sections were cut both transversely and longitudinally, and stained by a large variety of special methods, as well as by the ordinary histological stains.

When viewed by the lower power, the sections appear to have a lightly stained central portion entirely surrounded by normal epidermis, except in some places, where it is slightly thickened and thrown into folds. In some of the sections which are cut longitudinally, a moderate degree of hypertrophy of the prickle-cell layer is noted. The chief feature, however, seems to be a distinct hypertrophy of the papillary layer of the corium. An elongated appearance of the papillae is noted in places, due to a growth downwards into the corium of the interpapillary processes. With the high power, the papillary layer shows an increase in the amount of collagenous tissue, the bundles of which are irregularly interlaced, but not closely packed together. In the meshes are numerous connective tissue cells, blood vessels, and a few lymph spaces. The general appearance of this part of the section is that of a soft fibroma, moderately rich in connective tissue cells. No muscle or nerve fibres can

be seen. The base of the tumor at its junction with the normal skin was carefully examined for nerve tissue; but it also was impossible to demonstrate any fibres at this situation. The blood vessels are rather abundant, most of them being dilated capillaries with thin walls. The connective tissue cells seem rather more numerous in the vicinity of the blood vessels than elsewhere, and occasionally a polynuclear leucocyte is seen, but no evidence of inflammation is observed. Here and there a branching connective tissue cell, filled with minute pigment granules may be seen; only a few atrophic elastic fibres are present, but no mast cells or plasma cells can be found. Hair follicles as well as glands and adipose tissue are absent from the growth.

The epithelial elements of the epidermis are all well preserved, and quite natural in appearance. The stratum corneum is not apparently thickened, but the layer of prickle-cells in some of the sections shows a slight tendency to proliferation. The cells of this layer in places are rather large, but no mitotic figures are seen. The stratum granulosum is well marked in some places, with abundant keratohyaline granules, while in other situations this layer cannot be distinguished. The basal layer of cylindrical cells is intact, but markedly pigmented. As this layer approaches the normal epidermis at the point of excision, the pigment is no longer seen. None of the pigment granules anywhere in the sections react to the tests for hemosiderin.

To classify these tumors properly, a few points must be considered. The chief elements noted are: An absence of hyperkeratosis, a moderate degree of hypertrophy of the prickle-cell layer, an intact basal layer, a hypertrophy of the collagenous tissue with atrophy of the elastic fibres, an increase in cellular elements and blood vessels of the corium, and an absence of nerve fibres. Accordingly the growth can be placed only under the general type of soft fibromata. The ordinary form of hard fibromata, as well as the neurofibromata, do not come into consideration.

The verrucous growths (warts) are also excluded on account of the absence of hyperkeratosis. The tumors, therefore, are soft fibromata, and come under the group of fibroma molluscum.

On the Freezing Point and Amount of Chlorines in the Blood and in the Urine in the Puerperal State, and Particularly in Eclampsia.

MACE AND PIERRA. *Bulletin de la Société d'Obstetrique de Paris*,
November, 1905.

This is a record of an investigation which has been proceeding for more than a year. The authors have studied the freezing point and the amount of chlorines in the urine in four different classes of women:

- (1) in non-pregnant women (5 cases);
- (2) in normal pregnancies (5 cases);
- (3) in pregnancy with albuminuria (7 cases);
- (4) in eclampsia (27 cases),

and in these last the serum of the blood drawn off in the bleedings which

were usually practiced has been utilized for the investigation of the same two points.

The whole investigation is recorded in a series of tables which cover more than thirty pages. It will only be possible here to mention shortly the conclusions reached by the authors, which, being based upon a piece of work so careful and elaborate, cannot be lightly dismissed.

In regard to non-pregnant women the authors confirm the figures arrived at by other investigators and in consequence feel able to use them for purposes of comparison.

The pregnant women examined were all nearly at term. They found the volume of urine increased while the specific gravity remained, on the average, the same as in the non-pregnant state. The mean freezing point was 1.15° , as compared to 1.25° in the preceding table. The amount of NaCl in the litre was slightly less than in the non-pregnant state, but the amount secreted in twenty-four hours was considerably more, 17.5 to 12.5. The figures given in the table indicate great activity of the renal circulation.

In pregnancy with albuminuria the women were examined on six consecutive days. They received on the first three days an ordinary diet, and on the second three days a rigid milk diet. The conclusions reached are that the milk diet lowers the specific gravity of the urine, the molecular concentration, and the amount of chlorines, both per litre, and in twenty-four hours. The milk diet moderates the activity of the renal circulation.

So far the tables are general, but in the cases of eclampsia full details are given of the clinical course, and of the autopsy when a fatal result occurred, which was not often, as well as of the particular investigation of the blood and the urine.

The twenty-seven cases are divided into two series. The first seventeen received the following treatment: bleeding, subcutaneous injections of normal saline for twenty-four to thirty-six hours, and then rigid milk diet. The remaining ten were treated as follows: bleeding, abundant saline purgation, intestinal irrigation, and sterilized water only for the first forty-eight hours, when milk was introduced into the diet in small quantities at first, and diluted.

Chloroform, chloral and morphia were not given, save in one or two, just at the moment of delivery. The authors conclude as follows:

(A.) For the blood: (The serum was obtained from the bleeding made on entrance to the clinic before any treatment.) The average freezing point was 0.61° which is considerably more than in normal pregnancy, or non-pregnant women, and corresponds to a renal insufficiency.

The amount of chlorines was in the mean 7.3 for 1,000 c. c., which is notably more than the average quantity of NaCl in the blood. There appears therefore to be in the majority of cases a pathological retention of chlorines in the serum.

In only two cases was a second bleeding practical, and the authors state that it is difficult to base anything on such small figures, but so far as they go they confirm the view that successive bleedings diminish the molecular concentration of the serum, and the amount of chlorines.

(B.) For the urine: The prognosis in eclampsia is rendered favorable to diuresis, by dilution of the urine, by a molecular concentration normal or diminished, and by the equilibrium of the chlorine exchanges. But from the observations it results that with injections of normal saline (1) the volume of urine passed is diminished; (2) the dilution is less great; (3) the freezing point is lower, and in consequence the molecular concentration greater; (4) the quantity of chlorines eliminated remains, for several days at any rate, inferior to that of the chlorines absorbed.

The final conclusion of their investigation is that the injections of normal saline solution ought to disappear from the treatment of eclampsia. The milk regime itself appears dangerous to the authors, because it necessarily carries with it its contingent of chlorines. A pure water diet ought to be preferred, and should be established as soon as possible, to facilitate elimination, and by this means to prevent the recurrence of fits.

At a time like the present when the treatment of eclampsia varies in every hospital, and in the hands of every individual, these views, whether they be accepted or not, are worthy of careful consideration.

Comparative Histological Investigations on the Occurrence of Glandular Formation in the Ovarian Stroma.

FRAENKEL, (L.) *Archiv für Gynökologie*, Bd. lxxv., H. 3, S. 443.

The above is a very valuable contribution to a much vexed question as to the function of the tissue designated *glande interstitielle de l'ovaire* by Limon. The article is a very long one, occupying as it does sixty-five pages of the *Archiv*. The first seven pages are taken up by an account of the work done by French writers on this subject, principally by Limon and Bouin, and also by Forneaux, Ed. van Beneden, and v. Winiwarter. The author states that very little literature relating to the question is to be found in German publications, but he is able to quote extensively from Cohn and von Ebner in Kölliker's Handbook on the study of human tissues, likewise from Rabl and Nagel.

The author's own work is supplementary to that for which his name is already famous, in which he has shown that the corpus luteum is a gland with an internal secretion. In his desire that this theory shall be accepted as a fact he is careful to add that further anatomical and physiological investigations are needed to support it. In the present work Fraenkel has asked himself the question—is any other part of the ovary capable of affording an internal secretion? and in order to answer it he has made an exhaustive anatomical research on the tissue known as Limon's "glande interstitielle de l'ovaire." For this purpose he has studied serial sections of human ovaries obtained from gravid and non-gravid subjects, and from cases of chorioepithelioma, vesicular mole, osteomalacia, and myomata. To this he adds the comparative study of the ovaries obtained from forty-five animal species comprised in the orders

Marsupials, Ungulates, Carnivora, Rodents, Insect eaters, Cheiroptera and Apes.

After describing his histological technique he devotes thirty-three pages to a description of the naked eye and microscopical characters of this vast amount of material, into the details of which it is impossible to enter. Only eight illustrations have been allowed, which, considering the variability in type of the tissue under discussion, seems little enough. It is clear from Limon's work and the researches of Fraenkel, that a tissue has been demonstrated to exist in the ovary, having nothing to do with the true corpus luteum, which, from its histological features, might well be considered as capable of affording an internal secretion. This tissue consists of cells, polyhedral in shape, and rich in markedly granular protoplasm, which present nuclei showing a chromatin network. These cells are present in groups, and strands forming loculi and lobes. They aggregate to form large masses of highly packed or loosely arranged tissue, which is permeated by a capillary system and a variable amount of fine connective tissue. In many animals this tissue occupies one to nine-tenths of the entire ovary, in fact it may quite displace the original stroma of the gland. The cells have a yellow or green colour. Considered as a whole this tissue is comparable to that of a corpus luteum. The latter, however, is limited by a circular theca externa, whilst the cells of the "interstitial gland" are not thus circumscribed. The cells of the corpus luteum are larger and are more intimately related to capillaries. Whilst the cells of the "interstitial gland" may be green in colour, those of the corpus luteum are always yellow. Owing to the richer blood supply of the corpus luteum this structure is of looser texture than the "gland." The relationship of the latter to atresic Graafian follicles is discussed. Whilst as already stated the "gland" is quite separate and distinct from the corpus luteum, it may, in some animals, be definitely traced to originate in retrogressive follicles. But here arises a point of obscurity, for the author refuses to express an opinion upon the nature of the relationship—he says there is a relationship—between the cells of the "interstitial gland" and those of an atresic follicle. To settle this point an extensive research on embryonic tissues is necessary, and another difficulty arises from the fact that under the term "atresic follicle" various structures, histogenetically very unlike each other, are included.

Another tissue which bears some resemblance to that in question is the so-called "medullary-strands" found in the hilum of the ovary, but for differentiation, the position of this tissue is decisive, and moreover the cells and their nuclei are smaller, they lack the green or yellow colour; they more resemble the cells of a primordial follicle, and their blood supply is not so great.

In twenty-four animal species the characteristic interstitial gland cells were found by Fraenkel to be absent. In no order was it found in all the species, and in closely allied species there were signs of inconsistency, take for one example—the Bears. In the Ursidae it was present, in Procyonidae absent. It occurs most frequently in Rodents. In Marsupials four species out of six examined possessed it. In Carnivora it

was found in nine and not in six. In Apes two examples were found in six examined. In Ungulata it was not found. From the above facts the author draws the first conclusion of his summary, viz: (1) the inconstancy of the "glande interstitielle."

His next point of note is that: (2) the topographical distribution of this tissue is very variable. It can completely fill the ovary, but it generally leaves the outer layers of the cortex free. The primordial follicles often lie completely in this tissue (cat, marten, fox). The hilus is generally free from it.

The zone of medullary stroma seems to be the site of election. Again:

(3) The character and position of the cells vary enormously. According to Fraenkel there are the following types:

(a) The principal type. The greater part of the ovary is taken up with this tissue. It unites cortex to hilum by loculi and lobules. The cells are closely packed, are dark, granular, and contain fine droplets (? fat). These are seen best in rodents, such as rabbits, guinea-pigs and in long-tailed monkeys.

(b) The cells are loose, the septa finer, the loculi are round and contain many centrally situated degenerate ova, best seen in wombat, polecat, fox, shrew, mouse.

(c) The cells are clear, large and contain vacuoles (stoat, marten, civet, domestic cat).

(d) The cells are small, somewhat larger than ovarian stroma cells, and only distinguishable from these by the presence of a well arranged capillary network (mouse, rat, bear).

(4) As regards the nuclear structure, it varies within very wide limits. Chromatin was most abundant in the form of granules and threads, or it filled up the nuclei by clusters. Mitoses were rare.

(5) The capillary supply varied; it was seldom so abundant as in the corpus luteum; it was often very sparse. The size of the cells, the amount of their protoplasm, the general contents bore no relation to the capillary blood supply. The least highly differentiated cells had the best capillary system (marten, and stoat, as opposed to polecat and wombat).

(6) The septa and trabeculae varied in width, direction of the nuclei, and colouring. In some animals each seemed to occupy a separate compartment shut off by delicate septa from the adjacent cells.

Ten of the animals from which ovaries were taken were gravid. This fact made no difference to the character or amounts of interstitial gland tissue.

Fraenkel finds no trace of the interstitial gland tissue in human ovaries, or in the highest apes and largest mammals. He therefore comes to the conclusion that it cannot serve any great, general or important function, and in comparing it with the corpus luteum, he remarks that whilst the latter has most constant anatomical characters such as we associate with an organ having a definite function, the former is most inconstant.

ALBANY MEDICAL ANNALS

Original Communications

ADDRESS

Delivered at the Opening of the Seventy-sixth Session of the Albany Medical College, September 25, 1906.

By SAMUEL B. WARD, M. D.,

Dean of the Faculty and Professor of Theory and Practice of Medicine.

Gentlemen of the Medical Class:—The pleasant duty of delivering the address opening the seventy-sixth annual session of our College devolves this year upon me. With some such words as these it is customary for the speaker on this day to commence his discourse. Whether the duty is from all points of view a pleasant one I am not quite clear. It certainly is pleasant to welcome you back from your vacations to begin, or to continue, the study of the profession that you have chosen, and to heartily wish you Godspeed in your winter's work; to assure you that your teachers will do all in their power to help you up the hills that you will certainly encounter, and through the various and numerous sloughs of despond in the pathway of every student; to encourage you to believe that difficulties which to you may seem insurmountable are not really so; that if others have conquered them you also can; that the course is so arranged that nothing is necessary on your part except steady, honest, judicious work, but that that is an absolute necessity. You all look fresh and hearty now, full of ambition, and glad to get at work again. I think that we are all of us almost, not quite, as glad when the session begins as when it closes.

But if the duty of addressing you to-day is really an unalloyed pleasure, I want to congratulate you on having the most unselfish and self-denying body of men on your faculty that were ever collected together. When at our last meeting in May the

Registrar announced that it was my turn to open the session I at once pleaded another engagement for this date, and generously offered the opportunity to each man around the table in turn. You may believe me fully when I tell you that not a single one of them even looked as if he entertained for a moment the selfish notion of desiring to take my place.

If we stop a moment to enquire why the duty is not altogether a pleasant one I can find in my own case two reasons. One is that this has to be written during one's summer vacation when he has really no business to be doing any mental work at all, but should devote his entire attention to the more important matters of shooting partridges, trapping rabbits and more especially catching trout. Perhaps you think that evenings might be devoted to it, when fishing is out of the question. But I hasten to assure you that fishing is not at all out of the question at that hour; that by moonlight trout will often take very well indeed, when all the afternoon they have thoroughly despised your most fascinating flies.

There are many lessons to be learned from trout fishing. There has been much discussion for many years as to the best time to catch trout. In most waters it is undoubted that about sunset—just before and just after—is their favorite feeding-time. It is contended by some that sunrise is an equally good hour; but the inconveniences attending the putting that proposition to the test are so manifold and so manifest that I confess that I have not for years undertaken to establish or disprove it. It is deliberately stated by some writers that trout will never take during a thunder-shower, nor for some hours after one. This is sometimes the case no doubt; but, on the other hand, I never saw trout take faster or more eagerly than during and after one of the most violent thunder-storms that I ever saw, while I have cast diligently for a couple of hours at sunset without getting a single rise. There is but one infallible rule for catching trout and that is to go after them when they will take your fly. From this you may learn an invaluable lesson—opportunities will not come to you at your bidding; take advantage of them promptly and diligently when they offer. You are young now—vigorous and healthy, mentally and physically, and now is your golden opportunity. Improve it, and improve it *now*; neglected now, it will never return.

But to go back to the preparation of this address. I have

told you one reason why evenings ought not to be spent on it; but there is another. If you want to have pleasure and success attend upon your trout-fishing, you must be properly and fully prepared for it when the critical moment arrives. These preparations, and the hopes that they will enable you to net the biggest trout of the season, constitute no mean part of the pursuit. You must spend much time in selecting your flies, some modestly arrayed in brown and gray, and even in black; some gaudily, in blue, and red, and yellow. You must test your leaders and be sure that they will stand the necessary strain. You must be sure that your rod has not been split or injured and that it does not need varnishing. No less important is it that your line has not become frayed, or rotten, and that your reel works just right—will not stick or jam. Now preparation for the practice of medicine deserves even more serious attention than trout-fishing, which is saying a great deal. Look well to your anatomy as you would to your rod; to your physiology as you would to your line; to your bacteriology as you would to your leader; to your materia medica as you would to your flies; to your chemistry as you would to your reel. I am not giving you this advice on grounds of religion, or morality, or ethics; but on the homely, practical ground, which will appeal even to those who have no higher motives—the ground that it will pay you. As you would start on a fishing-trip with no tackle that was not thoroughly reliable, of your own personal knowledge, so do not undertake to start out in the practice of medicine without the proper equipment. Learn all that you can from your books and your lectures, as you would purchase your rod from a dealer of reputation, and then in the clinics, and at the bedside of the patient put to the test, or see tested, the reliability of what you have heard or read.

Even with the most thoughtful and elaborate preparation a day's fishing will wear out flies, and fray and weaken your leaders; your reel will rust at times and your rod, perchance, start to split. All these little points require attention during the evening hours if you want to save valuable time the next day. Just as truly you will find after you have obtained your diplomas that preparation for practice, no matter how elaborate, will not last forever. Some time will have to be spent in unlearning a few of the theories which have been taught you. Well-observed facts will not change; but theories, owing to in-

sufficient foundations, will frequently topple over, and have to be abandoned. You must always guard against confusing educational prejudice with a sound, underlying principle of action. Rapid advances are also now being daily made, and in your professional life every evening and all your other leisure hours will have to be devoted to preparing for the work of the days to come if you entertain the faintest hope of success. After you get into practice take at least two or three first-class medical journals, and as many more as you can afford, and read them regularly and carefully. New books come out from time to time, some of which you must get and "read, learn and inwardly digest"—make a part of yourself—if you intend to keep abreast of the times.

Perhaps you think that rainy days might have profitably been spent in preparing for this occasion. But often trout are more attentive to business on cloudy or rainy days than they are on bright ones. Besides it is always disconcerting to try to write while others are talking around you, and this is especially true if the conversation is more or less unintelligible. For example as I am writing I hear one man ask "How many did you take?" And a few moments later another says "They are no good at all against a full house." Of course this jargon means nothing whatever to me; but it is a sort of temptation to go over and find out what it is all about, largely alloys the pleasure of trying to write anything like a serious address during one's vacation, and amply justifies my friends on the Faculty for not desiring to take my place.

The other reason why I dreaded this address is because I suppose that I am expected to give you some good advice. Of course good advice is not necessarily advice to be good. That is generally accredited with being worth—like most other things in this world—just exactly what it costs—nothing at all. Besides you will get—or I hope you will—all that is necessary every Sunday morning, and sometimes, I am afraid, more than you will really put into practical, everyday use. Recollect that the Sabbath was especially instituted as a day of rest, and this reason for its existence is stated in detail. If there be among you individuals who are well rested by going to church and Sunday school three or four times, that is precisely the thing for you to do. But I fear that in these degenerate days there may be, even among you, comparatively few such. Indeed consider-

ing the number of clergymen whom I have heard complain of "blue Monday," it might seem as if they were greater violators of the fourth commandment than some of the rest of us.

Rest, however, is not by any means to be confounded with idleness. For all of us, rest, and change of occupation, are almost synonymous terms. It is said of a German philologist, who had devoted his life to the consideration of the Greek definite article, that on his death-bed he regretted that he had been so diffuse and had not confined his attention to the dative case only. Specializing is all very well, and vast advances have unquestionably been made by those who have limited the field of their labors by a comparatively small circle. But do not for an instant forget that the man with the best general education—the man with the largest fund of general information—is bound to make the best specialist. He, and he only, can adequately judge of the relative importance and inter-relation of observed facts and from them deduce general principles.

Change is the law of the mental world, as it is of the natural. The ground must have the winter's rest if it is to bear the summer's crop, and you must have the rest of the Sabbath to enable you to do well the work of the remainder of the week. Go to church Sunday morning, because after having listened to anatomy, and physiology, and surgery, and obstetrics all the week nothing could possibly be a more radical or grateful change. The hymns and the prayers will certainly do you good, and the sermon ought to also. Once in a while it may make you mad—no, we will not say that—it may fill you with a righteous indignation, which is more appropriate to the day, but even that will do you no permanent harm and may start up other trains of thought that will do you a lot of good. As to the rest of the day I have no special advice to give, except this—that you put your medical books on their shelves when you go to bed on Saturday night and don't touch one of them again until Monday morning. By the time you are fifty years old you will know more medicine, and be much more useful all-around practitioners, if you follow this advice than if you do not—and yet it is "ducats to doughnuts" that not one in ten of you will. "Such fools these mortals be."

While we are on this subject let me say also that it will pay you well to get plenty of rest every week-day also. I well know that it is told of the great Napoleon that he never slept more

than three hours. One of the most eminent medical men of the day tells me that for more than twenty years he worked habitually from seven o'clock in the morning until three o'clock in the morning. And an ex-Governor of this State for many years slept only four or five hours, and worked hard almost every other minute of the day. I have had no recent opportunity—perhaps it may be considered fortunate—of communicating with the great military chieftain; but each of the other two has told me that he can now do more work on eight or nine hours sleep than he can on less. Undoubtedly some of you require less sleep than others; but each of you should find out for himself how many hours it takes to refresh him—to permit him to get up wide-awake and feeling like going to work again,—and should then habitually allow himself that number. Emergencies will occasionally arise to necessitate your doing with less for a few days. But, for pity's sake, don't for a moment count cramming for examinations among such emergencies. Cramming your mind is more illogical even than cramming your stomach. You might much better eat at one meal the food required for a week, than cram for an examination. If there is any time in your career as a student when you want to have your memory respond promptly to the calls made upon it, to have your intellect clear and alert, to have your wits about you, it is when you are to undergo an examination. I am not at all sure that examinations are not a pure invention of the adversary at any time. Were it not for the laziness and tendency to procrastination, which appear to be inherent in most minds, I should certainly be in favor of abolishing them entirely, in professional schools at least. I sympathize with you in fearing, however, that they will not go during your student-life. Let me tell you, therefore, that the best way to prepare for an examination is to do every day and every week, honestly and faithfully, the work laid out for you in the curriculum; do what reviewing you can during the time allowed you for that purpose; and then during the day or two preceding the examination get plenty of exercise in God's fresh air and sunshine, go to the theater, or if your conscience will not permit that, amuse yourself in some more innocent way, if you can find one—at any rate, make it a point to come into the examination-room fresh and ruddy, mentally and physically. Of course, I know that not a single one of you will do this—but, it would pay you if you would.

Sleep is not the only rest you need during the week—that is rest from study. You cannot possibly study to the greatest advantage unless you keep your body in first-rate physical condition. If you are really well, study should be a joy to you—not a bore. The acquisition of new facts, the satisfaction of understanding and following out new processes of reasoning to their legitimate conclusions, the admiration of the wonders of the microscopic world, should all fill you with intense interest and joy. The moment you cease to enjoy your labors you are working at an immense disadvantage and should take immediate steps to remedy the condition.

The illustrious Abernethy said that “no man ever died happy with disease below the diaphragm.” It might truly be added that no such man ever lived happy. Your liver and digestive apparatus are to be as carefully looked after in a medical way, as the devil in theology. Both will offer you all kinds of temptations and woe betide you if you yield to either. Living as most of you do just now I do not know that it is very necessary to caution you against overindulgence in *pâté de foie gras* and plum-pudding at your boarding-houses. But physical exercise, regularly every day, rain or shine, and plenty of it, will pay you well. The hours devoted to it are not wasted, are not stolen from study. With a proper amount of it you will do more mental work—will accomplish more in the year—and will do it cheerfully and joyfully—than you possibly can without it.

The late Dr. Frank Hamilton used to say that the best thing for the inside of a man was the outside of a horse. In his own case he practiced what he preached, and certainly his mental and physical alertness and vigor at an advanced age bore loud testimony to the truth of his assertion. I agree with him entirely. But unfortunately, for a variety of reasons, comparatively few of us can ride a horse every day, and fortunately “shank’s mare” is an excellent substitute. You must all of you recollect occasions when after poring over a text-book for hours, in a close, stuffy room, the atmosphere very possibly laden with tobacco smoke, the feeling has come over you that you could not recollect a word you read; you have closed your book, thrown open your windows, put on your hat and gone for an hour’s walk in the fresh air and sunshine. Do you not recollect what a different aspect the whole world presented on your return, with your old liver well shaken up and the cobwebs brushed out of

your brain? In a minor, but no less important degree, out-door exercise every day, for an hour at least, will enable you to do more work and do it easily and with pleasure. There are forms of concentrated exercise in-doors, in gymnasiums, squash-courts, and the like, which induce and enable you to get more muscular exercise and fatigue, in less time. They are infinitely better than nothing, and during inclement seasons are invaluable; but in the long run my observation is that they do not at all equal riding and walking in the open air.

Another most important habit for you to acquire is that of mental concentration. Sitting at a table with a text-book open before you and running your eye along the lines, while your mind is occupied with recollections of the good times of yesterday, or plans for those of to-morrow, or day-dreams of what your best girl may be doing at that moment, is not study. If you do not already know how, you should learn to so exclude all outside thoughts and so fix your attention, by a determined effort of the will, on the page before you, that reading it once, or twice at most, will put you in possession of every fact there recorded. I do not mean to say that you will be able to repeat the page *verbatim*, but the facts will become yours. You may think this a gross exaggeration; I assure you it is not. At first it will require a determined effort of your will, and the effort may have to be repeated twenty times on the first page. But in a period so short that it will surprise you the habit will be formed and thereafter no conscious effort need be made. The economy of time is prodigious and ample leisure will be left you for exercise and amusement.

I have just spoken of amusement. Among our Pilgrim forefathers there seems to have been a very general impression that any occupation that was agreeable and pleasant was an invention of the Evil One and therefore to be always shunned, and under no circumstances permitted. According to their standards "everything nice was naughty," and their chief satisfaction in life seemed to consist in making themselves miserable. But times have changed and we have changed with them. The truth of the saying is now recognized that "all work and no play makes Jack a dull boy," and to-day I scarcely know, or know of, a single man who could lay claim to having achieved success or greatness who has not some favorite form of amusement—who does not devote a part of his time to some occupation because

it affords him pleasure. Again a change of occupation affords rest, and enables a man to go back to his chosen life-work with renewed energy, zest and success. I know two men who find their pleasure in reading the Greek and Latin classics in the languages in which they were written. I know others who change off to Macaulay, Thackeray or Dickens; others to chess, checkers, the theater, back-gammon, or cards. One of the most successful and prominent business-men of the day is said to be a devoted admirer of Miss Milliken. She is elusive and capricious, as is supposed to be the right of her sex, but always fascinating. And just therein lies the danger of all these things—that they may prove *too* fascinating. Use them but don't abuse them—don't allow yourself to be flirting with Miss Milliken when you should be considering miscarriages.

As to playing games for money I am not of those who believe that the men who do it thereby necessarily lose all chance of getting to heaven, besides destroying all their chances of usefulness in this world. If you could always be sure of playing with personal friends only, and for a stake so small that anyone at the table could perfectly well afford to lose and not win, there might be no particular harm in it. I hope that there is no need of impressing upon you the fact that any man who goes to a gambling-house "to try his luck" is a natural, born fool, dyed in the wool. The men who run those establishments are not in business for the benefit of their health, but the game, even when you are sure that it is conducted with perfect honesty, is so arranged every time, to a mathematical certainty, that the lamb is bound to be fleeced in the end; and no one will despise your lack of ordinary intelligence more thoroughly than he who takes your money, for ever having thought that you could possibly win. Of course this argument does not hold against a friendly game of poker. Almost any man thinks that he can afford to go into a little game with a penny *ante* and five or ten cent limit. The trouble is that such restrictions do not at all permit the development of the possibilities of the game, and it will not be long before everyone will be wishing to have them removed. There is no possibility of denying that gambling—playing games for gain, and not for amusement or recreation—has for many men a perfectly infernal, horrid fascination, which leads them to their ruin. I recollect on one occasion to have seen five hundred dollars on the table, the ownership to be decided by the

superiority of a single hand, when there was only one man at the table who had an income exceeding five thousand dollars a year, and only one other who did not have a wife and family to support. Now, gentlemen, in all reason, can you imagine a more silly, irrational, idiotic, wicked performance than that? If you get into the habit of playing for money at all, the temptation to take unwarrantable risks, which has proved too strong to be resisted by many and many a man of just as much firmness and principle as you think that you have, may prove your undoing. There are hundreds of perfectly safe ways of getting amusement and recreation; therefore I advise you not to play games for money, on the same old ground—that it does not pay.

I do not suppose that you *want* any advice on the subject of alcohol, nor have I any reason to suppose that any one of you *needs* any. But you are being prescribed for in various directions to-day and you may as well take this dose along with the rest. I am not going into any long scientific discussion as to whether alcohol is to be classified as a food, a stimulant or a narcotic. In point of fact its varied action depends on two things—the condition of the man who takes it, and the dose. If intended as a food, directly or indirectly, or as a narcotic, it will be prescribed for you by some one else when you are ill, and then you will take it of course. For my own part for over forty years now I have not taken an alcoholic drink without the knowledge of a physician in active practice, and yet I am by no means sure that his consent was always judicious.

I have just told you that the effect of alcohol will depend in part on the condition of the individual who takes it. Sometimes the run-down state of a sick person may demand it as a drug; its administration, and in what seems enormous doses, may save a life; and none but a fanatic could possibly object to its use. In 1874 I published the history of a case of gangrene of the leg, the result of arterial embolism, in the person of a rather frail American woman, of thirty-one, who had never been in the habit of taking alcoholics in any form. For several weeks her daily allowance consisted of one quart of brandy, a half-pint of sherry and a pint of champagne. She never showed the least symptom of any effect of alcohol on the performance of the mental functions and after her recovery resumed her previous habit as a total-abstainer. It may be interesting to add, in passing, that during the weeks that she hung between life and death the pain was

so severe that she frequently took as much as four ounces of laudanum in the twenty-four hours for its relief. If in such a case as this you decide to give alcohol, as a stimulant, you will have to give much more than the usual dose to produce the desired effect; but always bear in mind that other point that just as soon as any symptoms of exhilaration have been produced too much has been given.

The case just mentioned is not by any means an isolated one, and from such we learn that when alcohol is really needed enormous doses may be tolerated and indeed given with advantage. On the other hand I want to warn you also that when you are not seriously ill, but so far as you know in your ordinary good health, the ingestion of quite an ordinary amount of alcohol—say a couple of glasses of beer, or an ounce of whiskey, diluted with water—an amount which would ordinarily produce no other effect than one of a mild exhilaration,—may prove decidedly intoxicating. No one who ever takes a drink at all can be sure that the next one will not have far more effect on his brain action than he desires or has reason to expect.

It would, of course, be perfectly superfluous for me to enter into argument against the continuous and excessive use of alcohol. You have all of you seen, or will see, in the autopsy-room its effects on the blood-vessels, the kidneys and the liver. The number of lives that are ruined, and the poverty and distress brought upon whole households, by excessive indulgence in alcohol, are such common matters of record that they have unfortunately almost ceased to have any effect upon us. If your and my becoming total-abstainers would close up all the distilleries and breweries in the world, there is no doubt that the human race would be better off if we signed the pledge to-day. But, on the other hand temperance is all that is enjoined on us by any command, human or divine, with which I am acquainted, and I am not at all sure but that just as much illness is caused, and just as many lives shortened, by over-eating as by over-drinking. I have not heard of the organization of any society the members of which were total-abstainers from food, and ever since the days of good old Noah men seem to have had as natural a craving for the juice of the grape as for food. My impression is that they always will have, and that you and I cannot hasten the advent of the millennium, which will come only in God's good time. Efforts have been repeatedly made

to legislate men into total-abstinence, and into honesty, and into industry; but they have always and signally failed, and they always will.

But if you do not feel called upon to become total-abstainers there can be no doubt that it is your bounden duty, in every way, by precept and by example, to encourage temperance. It will not require very extensive travel and observation, or very extensive reading, on your part to show you that in countries where light beers—the so-called lagers—and light wines are exclusively used as beverages, intoxication is practically unknown, while in countries where heavy ales and beers and distilled liquors are in habitual use it is unfortunately common. Therefore, if you will drink at all, eschew distilled liquors.

If one of you should ask me whether I thought that the daily drinking of even beer would be of benefit to you—whether I would advise it—I should be obliged to answer, no. I believe that any man, under fifty years of age, and in ordinarily good health, is better off in the end by not indulging in its daily use. I do not think that my friends would classify me as a pessimist, but I am one as far as the universal attainment of total-abstinence is concerned. By the way Hamilton Mabie, I think it was, defined a pessimist as “a man who when he was offered the choice of two evils took them both;” and a year ago I heard a Western orator define him as “a man who when he looked at a doughnut saw nothing but the hole.” Now I think that I can see the rim of the doughnut as well as the hole. I do not believe the indulgence in an occasional glass of beer or wine is an unadulterated evil, and I am fully persuaded that, if I advised you never to touch alcohol in any form, you would be much more apt to follow my example than my advice. But let me urge upon you that you must guard yourselves strictly against over-indulgence, and, if by any chance you come to a point where you cannot take an occasional glass without taking too much, then stop it at once and forever. All experience shows that there is no middle ground for such.

I had thought that I might say something to you about smoking. But I ought to leave something for the man who is to fill this hour next year, and, if he is at present on the Faculty, he will not be half “as much embarrassed by a knowledge of his subject” as I would be. Temperance is not to be urged upon you as to alcohol alone. It is to apply to your tobacco,

your amusements, your eating, your study even—let “temperance in all things” be your motto.

We have had a good deal to say about the fact that rest and change of occupation were necessary from day to day in order to enable you to do the most and the best professional work. It is a generally recognized fact in all institutions of learning, undergraduate as well as professional, that in addition to this, a more or less prolonged summer vacation is desirable. In some cases, as in that of this College, the holiday is so long that to spend the whole of it in idleness would be an unwarrantable waste of valuable time. I well know that many of you are obliged to engage in some pecuniarily remunerative pursuit during these months in order to meet the expenses of the ensuing winter. But let me advise you, if you can, during your student life, and especially after you get to be busy practitioners, to get at least one month in every twelve free from business anxieties, worries and cares. You will live longer, be happier, and be of more use in the world if you do than if you don't. Again—it will pay you well.

Let me advise you, in your earlier years, to spend a part at least of these vacations in travel. Reading makes a learned man and travel makes a wise one. Spending all your life in one village, or city, or State, leaves you necessarily with very narrow views of art, of architecture, of scenery, of many things that go to make life beautiful and enjoyable, that round it out and fill it up, that render you most useful and most successful. See your own continent first. Those of you who pass over the Canadian Pacific Railroad and stop at Banff and Lake Louise will have revealed to your vision scenes that will fill your eye with a magnificence, grandeur and beauty which no man's pen can adequately describe, of which no pictorial representation can possibly convey any proper idea, and which are surpassed no where in the world if, indeed, they are equalled. In Yellowstone Park you will again find wonders and beauties that will give you food for reflection the rest of your lives. When you reach San Francisco reflect that you have gone from New York less than half way, in longitude, to the confines of your own United States, and go on, if you can, to Alaska. With its glaciers, its fjords, and its hundreds and thousands of miles of solitude, you cannot fail to be impressed. And when you are on your travels do not forget to study the people. All through

the West you will find displayed an energy, a self-reliance and a persistence which will account for their wonderful progress and success in the face of enormous difficulties and discouragements and which cannot fail to inspire you. "The highest study of mankind is man."

Having seen your own country you will naturally want to visit Europe, and very possibly continue your trip around the world. Time does not permit me to dilate on the advantages to be gained from professional post-graduate study abroad and fortunately there is no necessity for my so doing. They have already been laid before you over and over again.

But in your professional life there will come times when the strain on your powers, mental and physical, has been so great that you absolutely need rest, when even travel would be tiresome and not answer the purpose. Let me advise you at such times to get away from the vile haunts of men absolutely—get into camp either alone or with one congenial companion at most—and if you have a companion get away even from him for hours at a time. No one who has not tried the experiment of being absolutely alone—not even being able to indulge in an ordinary conversation for hours or days at a time—coupled with plenty of exercise in the open air, has any idea of what real rest is. In many localities a guide will be a necessity; if so, select one, physically capable of course, but who would probably be killed by the shock, if a new idea should chance to strike him. A week of such life will do more to restore you than a month of any other that I know of, and I have tried many.

Of course you will camp on the border of a lake selected on account of the fishing it affords, and good old Isaack Walton's recreation will be yours. Besides the many other advantages which this kind of vacation affords, let me say to you in conclusion that if a man ever finds himself in a frame of mind to enjoy, appreciate and be thankful for the beauties of nature—the woods and the mountains, the sky and the water, the sunset and the moon-rise—and to look thro nature up to nature's God with feelings of adoration and true worship, it is when amid surroundings such that he will surely have a fly-book in his pocket and a light rod in his hand.

HYPERNEPHROMA OF THE KIDNEY.

WITH REPORT OF A CASE.

BY J. M. BERRY, M. D.,

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From the Cluett Pathological Laboratory.

Keen defines hypernephroma as a tumor arising from adrenal tissue whether in the normally situated gland or in ectopic fragments of the organ known as adrenal "rests."

The term hypernephroma was first applied, by Birch-Hirschfeld in 1896, to a class of tumor thought to have its origin in suprarenal gland tissue, but, as is well known, Grawitz in 1883 was the first to call attention to the fact that a large class of renal tumors had their origin in the adrenal. Prior to the year 1883 this class of tumor had been variously diagnosed as lipoma, sarcoma, adenoma, angioma, angio-sarcoma, adeno-carcinoma, myxoma, endothelioma, etc. At the present day, only a few pathologists deny the adrenal origin of these tumors.

The so-called adrenal "rests" are of very frequent occurrence. They have been reported to have been found in ninety per cent. of all post mortems. The embryological kidney is lobulated and, to a certain extent, encloses the adrenal gland; it is therefore easy to understand how portions of the adrenal might become detached and enclosed in the inter-lobular structure of the kidney. Adrenal "rests" are by no means confined to the kidney but are found in various other parts of the genito-urinary tract and body. It is possible, therefore, to have hypernephroma of organs other than the kidney.

Smallwood reports the finding of a tumor in the kidney of a frog similar to hypernephroma in man.

The frequency of these tumors is demonstrated in Keen's paper published in 1904. He had collected 163 cases since 1890.

Hypernephroma is not usual in patients under thirty years of age. Sex does not seem to be of much account but the tumor is more frequent in the adult male. Traumatism has been mentioned as an etiological factor.

The pathology of hypernephroma is as yet not wholly clear; nevertheless two types of tumor, a benign and a malignant, can be demonstrated. In the last edition of von Bergmann's surgery

there is an excellent summary of the present knowledge of this subject:

Small tumors situated in the renal cortex and containing fat, which are wholly composed of tissue resembling the cortex or pigmental zone, or even the medullary portion of the suprarenal gland, are to be considered misplaced fragments of that gland rather than tumors.

The benign type of hypernephroma are lobulated tumors containing fat and having a whitish, yellowish or brownish color, and solid consistence. They are found beneath the capsule of the kidney and are divided by connective tissue into smaller and larger lobules and are separated from the renal parenchyma by a connective tissue capsule. Microscopically, they are made up of a delicate, vascular stroma within the meshes of which are characteristic cylinders or groups of cubical, rounded or polygonal cells of the epithelial type. The cylinders of cells are often parallel to one another. There is no lumen present. The cells are all about of the same size, the nuclei stain well and the cell bodies contain few to many fat drops and also glycogen, as shown by the brown color produced by iodine. The cells are stained yellowish or brownish with a solution of potassium bichromate, a reaction which is peculiar to the medullary portion of the suprarenal gland. There are areas of softening, haemorrhagic areas and areas of myxomatous degeneration. Such a tumor is analogous to an adenoma of the suprarenal gland.

Von Bergmann distinguishes a group of benign tumors characterized by the presence of giant cells, also a group which seems to owe their origin to the cells of the medullary portion of the suprarenal gland.

Some hypernephromas never manifest any malignancy, others are very malignant. It is sometimes difficult to distinguish between a benign and malignant hypernephroma; just as a carcinoma may lie dormant for years so may a hypernephroma. At times one cannot differentiate microscopically between a benign and malignant tumor.

Malignancy is shown by local extensive invasion of the kidney and surrounding parts, and also by metastasis. Metastasis is said to always occur by means of the blood vessels instead of the lymphatics; it not uncommonly occurs by invasion of the renal vein. In several cases, thrombosis of the vena cava has been

reported. Metastasis occurs especially in the lungs, liver and bone, but almost all the tissues of the body have been known to be involved.

The structure of a malignant hypernephroma is well described by von Bergmann: "A nodular tumor of yellowish or brownish color with a harder center and a softer periphery either presses aside the neighboring tissue or infiltrates it and destroys it by the formation of new nodules. Sometimes the tumor grows into the pelvis of the kidney, forming polypi. Portions of the tumor on section appear to the eye translucent, like young cartilage, while in other portions there are evidences of hyaline degeneration. The mass of tumor is made up of connective tissue stroma whose meshes are filled by cubical or polygonal cells containing fat and glycogen. These cells are arranged in strings and rows suggestive of the arrangement of cells in the liver, or they may exist in broader cones and groups. Sometimes they are arranged in the form of a tubule, or of an alveolus more or less filled with cells and with papillary outgrowths, springing from the lining of the spaces. In the older portions of the tumor there are often found cysts of degeneration and hemorrhagic areas.

"A malignant hypernephroma can properly be classed with the sarcomata since there is no sharp differentiation between stroma and parenchyma, and because the connective tissue which forms the stroma also extends in between the cells of the parenchyma. Furthermore, while the younger portion of the growth looks like an epithelial tumor, the older portions show an appearance typical of sarcoma."

Considerable experimental work has been done with the object of proving the adrenal origin of these tumors. Previous mention has been made of the similarity between the tumor cells and adrenal cells in their fat and glycogen contents, also as to chromophilic reaction present alike in the tumor cells and the medullary adrenal cells. Gotti claims that the tumor tissue contains the same percentage of lecithin as adrenal tissue. Crofton finds that both have the power to decolorize iodine starch solution and that injections of the tumor extract would cause glycosuria in dogs, the same as injections of adrenal extract.

The propriety of using the name hypernephroma for these tumors is well summed up by Thorndike:

1. "The situation of the growth just beneath the kidney capsule; the most common seat of aberrant suprarenal tissue.

2. "The similarity of malignant tumors of the adrenal gland and these malignant growths of aberrant suprarenal origin.

3. "The absence of any transition structure between the growth and the renal tissues surrounding it.

4. "The tendency of the tumor to extend along and to involve venous rather than lymphatic channels.

5. "The resemblance of the tumor cells to those of the suprarenal cortex.

6. "The presence of fat drops and glycogen in the protoplasm of the cells: substances which are by no means universally or even commonly found in the adrenal tissues and yet which are always present in tumors of this gland so far as they are known.

7. "The property of the nucleolus of staining differently from the nucleus, a fact rarely if ever observed in cells of renal adenomata.

8. "The presence of giant cells like those in the small hyperblastic growths of the suprarenal gland of which we have a knowledge.

9. "The existence of an abundant capillary net work as seen in the suprarenal cortex.

10. "The presence of lecithin in amounts closely approximating those characteristic of suprarenal tissue."

The symptoms of hypernephroma are not so characteristic as to make diagnosis easy. The growth may be latent for a long time and hemorrhage from the kidney be the first symptom. Sometimes a dull pressure in the lumbar region may be the first symptom to direct the patient's attention. On examination, a large nodular tumor may be made out. The function of the kidney may be interfered with either by destruction of renal substance, by compression of the tumor mass or by both. When the tumor has once started to grow it usually grows rapidly. The question as to the raising of the blood pressure in this condition is still in dispute. Bronzing of the skin rarely occurs. Hemorrhage takes place in eighty per cent. when the tumor begins to develop malignancy. The hemorrhage is due to vascularity of the tumor and necrosis.

The treatment of hypernephroma is surgical, and the same rules apply as in treatment of malignancy in any part of the body.

The literature on hypernephroma is now quite extensive; never-

To Illustrate Dr. Berry's Article on "Hypernephroma of the Kidney."

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FIG. 1—*a.* Capsule around kidney and tumor. *b.* Kidney. *c.* Tumor.

theless, on account of its recent recognition and its comparative rarity, the report of a single case seems justifiable.

The case to be reported was a patient at different times of Dr. H. C. Gordinier and Dr. D. G. Buchanan of Troy.

Patient was first seen in June, 1905. Patient was a man aged 60, a dentist by occupation. He complained of lassitude, weakness, shortness of breath and slight cough.

Family history negative.

Past history, as far as known, was negative.

The present illness began some months previous to the time the patient was first seen. Patient had noticed that he had shortness of breath on exertion, that his ankles swelled somewhat and that he had to urinate several times during the night. The symptoms were growing progressively worse.

On examination, the patient was found to be a well built, well muscled individual. The skin was of a dirty, yellow color and very dry. There was slight cyanosis of the lips and finger tips, and slight oedema of the ankles and over the tibiae. Both the radial and temporal arteries were readily palpable and could with difficulty be compressed. There was a distinct arcus senilis present. The eye grounds were normal.

The chest was well developed and symmetrical; the movements were normal but the respirations were slightly increased. There were no enlarged veins and no local bulgings. The percussion note was universally vesiculo-tympanitic in front and back. On auscultation the respirations were prolonged and low in pitch especially in the infraclavicular region. Posteriorly in the infrascapular region there were numerous fine moist râles from chronic oedema.

The cardiac apex was thrown downward and outward into the sixth interspace and two centimeters outside the mammary line. The impulse was heaving. The aortic second was markedly accentuated and there was a systolic apex murmur conducted into the axilla. There was a definite epigastric pulsation but no pulsation of the jugular veins.

The abdomen was full, symmetrical and presented no enlarged veins or no local bulgings. It was universally tympanitic, perfectly soft on palpation and there were no herniae present. The superficial liver dullness was displaced by a tympanitic note. The liver was palpable two inches below the costal margin, its

border being round and smooth. The spleen was not palpable or percussable.

There were no lesions of the nervous system demonstrable.

The arterial tension which was taken at the time of the first examination and many times afterwards was always +.

The urine was large in amount and of a low specific gravity. There was a trace of albumen with hyaline and granular casts but no blood. Frequent examinations of the urine were made at various times during the patient's illness with the same result.

There was a progressive increase of all the symptoms and the patient developed very marked oedema of the lower extremity. Some fluid collected in the abdomen and a moderate hydrothorax developed. During the progress of the case, there were several attacks of acute oedema of the lungs which were promptly relieved by moderate doses of nitroglycerine. At no time was there bleeding from any mucous surface and there was never any haematuria.

The case was diagnosed as one of chronic interstitial nephritis.

The patient died in December, 1905. For a week or ten days previous to death, the patient was confined to his bed. He was troubled with extreme nervousness and marked shortness of breath. The skin had become of a greenish yellow color.

A partial autopsy was performed by Dr. Carey, December 23, 1905. Only the heart and right kidney were removed for examination. Dr. Carey's notes as to the gross pathology, made at that time, are as follows:

"Heart measures, 14. x 13. x 5.c.m. Pericardium smooth, has numerous dark hemorrhagic areas averaging about 2 c.m. in diameter, located at apices of the appendices auriculæ, apex left ventricle and along interventricular septum on right side. The muscle is very flaccid. Right auricle dilated and contains two typical ball thrombi of pale white color attached by delicate threads to the wall of the auricle. The right ventricle is dilated and contains thrombi also in the musculæ pectinati. The valve leaflets are normal. Left auricle is dilated, the walls are smooth, no thrombi. Foramen ovale. open but competent. Left ventricle dilated, walls less than 1 c.m. thick, one leaflet of the mitral valve shows a plaque of yellowish color, but no appreciable incompetency of the valve made out. There is a marked increase in the interstitial connective tissue in the papillary muscles. The aortic and pulmonic leaflets are normal but the aorta at its

origin is very rough and atheromatous. The coronary arteries present an advanced grade of arterio-sclerosis, with atheromatous ulcers and calcified plaques. No obliterating thrombi are seen.

"Kidney. The kidney is surrounded by a greatly thickened capsule which, when stripped off, leaves an irregularly shaped kidney measuring 14 x 10 x 9 c.m. The fibrous capsule strips easily and leaves a fairly smooth kidney substance. On the concave surface about the hilum is a fungoid tumor mass measuring 9 x 8 x 4 c.m., extending outward from the parenchyma with nodular surface and soft consistency. The growth extends into the capsule, where it is limited only by a fibrous capsule similar to that about the kidney. Its involvement of the perinephritic tissue appears more like an extension of the main growth than an infiltration. On section only a little of the parenchyma of the kidney is left, principally the cortex with here and there a portion of a pyramid. The pelvis is completely filled with the growth. The blood vessels are filled with thrombi particularly at the upper pole. The ureter is chronically inflamed but patent, and leads into a small pelvis pushed to one side by the growth. The renal vein is completely obstructed by the growth along its lumen. There is thrombosis of the renal artery also. The growth is soft, friable, has a yellowish color and a fairly homogeneous structure. It has undergone extensive degeneration, as shown by the numerous areas of hemorrhage and numerous cyst spaces. When torn, it leaves a granular surface. Blood vessels are scarce. Colloid degeneration is present also. The adrenal is normal."

The left kidney was not removed, but seemed to be of normal size. Photographs of the gross specimens are shown in Figs. 1 and 2.

Microscopically, the tumor is seen to be made up of polygonal epithelial-like cells held together by a scanty connective tissue stroma. The cells vary somewhat in size. The nucleus is large and circular and stains well. The protoplasm is very granular looking and contains occasional vacuoles. The stroma is scanty in amount and there are numerous capillaries. The arrangement of the cells varies in different portions of the growth. Oftentimes the cells are so crowded together that there seems to be no regular arrangement at all; at other times the cells are collected into lines and columns; again they may form cylinders

and in places, there may be almost a glandular appearance with the formation of small cyst-like cavities and papillomatous ingrowths. No giant cells are observed. There are numerous areas of extravasation of blood and degeneration. Frequently the degeneration has progressed so far that no structure can be made out. All that remains is a granular detritus. The growth seems to be well marked off from the kidney substance. There even seems to be a formation of connective tissue between the two. This connective tissue septum is in places thickly infiltrated with small round cells. The thrombi in the renal vessels are infiltrated with the growth. The growth seems to have broken through the vessel wall and invaded it.

The kidney tissue proper shows marked increase in connective tissue both between the tubules and in the glomeruli. The epithelium lining the tubules shows marked degeneration.

No metastatic growths were found in the thrombi in the heart, but in two instances groups of tumor cells were found in spaces in the thrombi.

The diagnosis is hypernephroma of the kidney springing from the hilum and involving the renal vessels. There is an associated chronic interstitial and glomerular nephritis. Multiple thrombi of the right auricle and ventricle with emboli of tumor cells. There is also present a chronic interstitial myocarditis, advanced arterio-sclerosis of the coronary arteries and aorta and a dilation of all the cavities of the heart.

BIBLIOGRAPHY.

No attempt will be made to give a complete list of the literature on this subject. A very good summing of the work done on hypernephroma up to 1902, is given in Lubarsch and Ostertog.

Some of the more important papers published since 1902 are given below. The articles of Thorndike, Penchard and Keen, Pfahler and Ellis are especially instructive and contain extensive bibliographies.

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To Illustrate Dr. Berry's Article on "Hypernephroma of the Kidney."

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FIG. 2—*a.* Thrombosed renal veins. *b.* Ureter.

ACNE VULGARIS.

WITH SPECIAL REFERENCE TO ITS TREATMENT BY THE
GENERAL PRACTITIONER.

Read before the Medical Society of the County of Fulton, March, 1905.

BY JAMES W. WILTSE, M. D.,

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Mr. President and Gentlemen of the Fulton County Medical Society:—Acne Vulgaris is probably the most prevalent of all skin diseases in America, not excepting eczema. Many cases are so mild that they never present for treatment while many others are so severe as to be a course of great mental as well as considerable physical suffering to the patient. In many of the severe types of the disease scarring is left which persists until mature years and may never be entirely eradicated. Occurring at a time of life when the patient is most concerned about his or her personal appearance the disease is often a source of much embarrassment and mortification to the patient; especially is this the case in young women. I know of no skin lesion in which the patient feels more gratitude to the physician than in these cases of severe and disfiguring acne when a cure has been effected. It is not always in the cure of diseases that are inimical to life that the patient feels most gratitude for a cure, and the physician who will patiently go into the history of these minor conditions, treat them intelligently, and effect a cure will be as highly esteemed by that particular patient as by another, whom he may have carried safely through a pneumonia or typhoid fever. In the past, I fear, the general practitioner has been too prone to pass these cases along with the assurance that not much could be done for them; that the disease was due to the age of the patient; that when this period of adolescence was past the disease would disappear, etc., etc., the patient meanwhile going on with a disease which, when located on the face as most of the cases are, is a source of constant annoyance and chagrin, finally to arrive at an age when, if the active lesions cease, unsightly scarring is left which may persist for a lifetime. A great deal of all this and in the majority of cases all could have been avoided if the physician had taken time to have gone into the history of

the case and treated it intelligently, as he would, if it had been a graver disease.

The treatment of acne as we shall see in the etiology, has to do so closely with internal medicine that the general practitioner might, almost, be the man of election to treat it. Acne attacks both sexes alike; it begins at or soon after puberty and persists until full adult life is reached when its activity is usually over. In some strumous subjects or in those of marked cachexia it may remain active in late adult life. Acne is often preceded or accompanied by seborrhoea oleosa and probably always by comedones.

The lesions may be few in number and small or more numerous and larger in size with markedly infiltrated bases and even induration. They are situated on the cheeks, about the alae of the nose, on the forehead, chin, on the anterior aspect of the neck, underneath the jaw, and on the shoulders, back, upper portion of the chest, and more rarely on the limbs. When on the last-named location it is usually a part of a general acne known as acne cachecticorum. The acne lesion varies in size from a pin head to a split pea. The lesions are often seen in all stages of development in the same patient, papules, pustules and tubercles being present at the same time. They are rounded or acuminate in shape, the base infiltrated superficially or deeply; when the infiltration is deep the scarring is correspondingly great. The amount of suppuration is variable depending somewhat upon the subject in which the disease occurs and somewhat upon secondary infection. In severe indurated acne, traces of the disease persist for years and occasionally keloid develops at the site of the preceding acne lesion.

ETIOLOGY.

Acne is preeminently a disease of youth and adolescence; at about the period of puberty the sebaceous glands and hair follicles take on an increased activity; under these circumstances anything that disturbs their function may produce the disease. The causes that predispose to acne are of two kinds, local and remote. Two conditions which are almost always present and whose relative importance depends upon whether one accepts Unna's or Sabourad's theory of the specific organism causing acne, is the comedo and seborrhoea oleosa. According to Unna the specific organism, the acne bacillus, is present in the comedo,

and therefore we must first have the comedo in order to produce acne. Sabourad on the other hand claims that the seborrhoeic microbe is the cause both of seborrhoea and the comedo and that there can be no acne without a preceding seborrhoea. Personally I accept Unna's view, but the fact remains that acne is very often accompanied by seborrhoea and if not directly responsible, such a skin seems to be favorable to the development of acne. Other local conditions are sluggish circulation in the parts affected, the use of irritating cosmetics, exposure to cold winds, and certain occupations, such as workers in tar, paraffin, chlorin, etc., etc.

Besides these local causes the remote or constitutional disorders play an important part in the production of acne. Crocker states that more than fifty per cent. of his cases suffered derangement of the alimentary canal. The greater number suffered from constipation and digestive disturbances. Uterine and ovarian disorders especially those that produce irregular or painful menstruation frequently predispose to acne. Anemia, chlorosis, mental and physical exhaustion, sedentary habits, lack of exercise and sunlight, all are provocative of acne. The scrofulous diathesis as we understand that term to-day, *i. e.*, latent tuberculosis, is very prone to be accompanied by a severe pustular type of acne; it is in these cases that we see large and deep abscesses form. Indiscretions in eating, either in irregularity or in the eating of improper foods, provoke acne. Beer and ale, alcoholic beverages of all kinds when used to excess, are excitants to acne, although more frequently they produce acne rosacea.

PATHOLOGY.

Much light has been thrown upon the histology and pathology of acne since the researches made by Unna in Hamburg have been given to the medical profession. Formerly it was supposed that the pustulation in acne was entirely due to infection of the acne lesion by germs from without, *i. e.*, pyococci; Unna shows that it is not produced in this manner, but by a bacillus resident in the comedo which always precedes the acne lesion. To quote from Unna, "Acne is characterized in the first stage by a superficial hyperidrosis of the epidermis, which leads to the formation of comedones;" "While the sebaceous glands with the follicles are stopped by horny plugs the coil glands are active; indeed there is often hyperidrosis oleosa;" "The skin is

stretched by the unyielding horny layer, anemic, little movable, and on the face not easily pinched up;" "Pressure causes more easily than normal, a circumscribed spastic oedema." On this basis (*Acne punctata*), "A more inflammatory development of the disease takes place in two directions, one progressive, dry, and inflammatory, with thickening of the whole skin, hypertrophy of the sebaceous glands and the formation of inflammatory nodes (*Acne Indurata*); the other accompanied by secondary suppuration of the sebaceous glands (*Acne pustulosa*)."

The former change leads, in its highest development, to *acne hypertrophica*, the latter terminates in scars and the formation of double comedones. Simple *acne punctata* leads, when most fully developed, eventually to the formation of sebaceous cysts, "false atheromata."

He further says, "The suppuration of the follicles is a much more frequent development in *acne punctata*, than in *acne indurata*. It is one of the most important consequences, which the better knowledge of the ordinary staphylococcic impetigo has produced, that we can certainly not attribute the suppuration of *acne* to the ordinary pyococci. The course of the suppuration in *acne* is quite different to that in furuncle, so that we can distinguish histologically, with much more certainty than clinically, true furuncle from suppurating *acne* nodules. The difference between the causes of suppuration in the two affections could have been already concluded from the fact, that *acne pustulosa* has no tendency, like sycosis, to develop into general furunculosis. Indeed, it is remarkable that the ordinary pustular affections of the skin are not often combined with *acne pustulosa*."

He then goes on to show that the cause of pustular *acne* is the *acne bacillus* found in the interior of the comedo. The whole question as studied and elaborated by Unna is very interesting, but is much too exhaustive to be incorporated in an article of this length.

DIAGNOSIS.

As a rule the diagnosis of *acne* presents few difficulties. The age of the patient, the distribution of the lesions, the accompanying comedones, the chronicity of the disease, all present a picture which is not easily mistaken. The one lesion which it most closely simulates and one for which it may be mistaken unless other concomitant symptoms are present is the small papulo-

pustular syphilid of the face. I have seen such syphilids very closely resembling the acne lesion. In the absence of chancre or where it cannot be found, and this is not unusual in women, the characteristic dull red color of the syphilid, its tendency to group in distribution, the presence of sclerosed lymphatic glands, history of sore throat, headache or mucous patches in the oral cavity, will be sufficient to clear up the diagnosis. Sycosis of the face is confined to the bearded portion of the face and attacks the hair follicles, so that it cannot easily be mistaken for acne. Sycosis is never found on the forehead, about the alae of the nose or other non-hairy portions of the face, whereas acne is often found in these locations.

TREATMENT.

The treatment of acne to be successful must be both local and constitutional except in a small minority of cases where the disease seems to be due to local causes pure and simple. Van Harlingen says "In order to treat a case of acne with any hope of success, we must first ascertain the causes which have operated in bringing it about. The foundation of the successful treatment of acne lies in the knowledge of its etiology."

"The patient should be carefully examined regarding every organ and function. The habits of life, the surroundings and the occupation of the patient should all be known to the physician, who should also study the case well, to discover, if possible, what is the exact cause or group of causes of which the acne eruption is the expression and result. Without this, little can be hoped for; and acne is one of the minor opprobria of medicine, chiefly because the physician cannot or will not take the trouble to enter into the patient's case with the persevering thoroughness which is indispensable." Only in a relatively small number of cases will local treatment alone suffice to cure and keep cured the lesions of acne. Each case must be studied and treated according to the indications. If constipation is present it must be relieved; if digestive disturbances, flatulency, eructations of gas, hyperacidity of the stomach, etc., etc., complicate the case proper means must be employed to correct them. In the same way anemia, chlorosis, functional menstrual disturbances, scrofulosis and in fact any condition which seems from the history to have a bearing on the disease must be combated. If constipation alone be present without other disturbance of the alimentary tract an occasional dose of blue mass at

bedtime followed by a saline or some one of the cathartic waters in the morning may be given, or if more persistent cascara sagrada, aloin, strychnine and belladonna pill at bedtime. If hyperacidity and eructation of gas are complained of an alkali such as the *mistura rhei et sodii bicarbonatis* of the U. S. P. or equal parts of *sodii bicarbonas* and *magnesia calcinata* (light) in drachm doses may be given after meals; the latter being given in a full glass of water. In flatulency, pancreatin, oxgall, nuxvomica and asafoetida are useful. In anemia and chlorosis chalybeates and other blood and tissue builders are indicated.

Where these conditions exist with constipation as frequently happens, the "*mistura ferri acida*" of Startin is a useful remedy. Its formula is about as follows:

℞ *Magnesii sulphatis* ℥ i.
Ferri sulphatis ℥ i.
Acidi sulphurici diluti ℥ iv.
Infusi quassiae. q. s. ad ℥ iv.
 Sig. Tablespoonful in a goblet of water before breakfast.

Other chalybeates being given after meals. In scrofulous patient, cod liver oil, hypophosphites, out-door life and exercise are to be recommended. A remedy recommended by Fox to be used in conjunction with cod liver oil in scrofulous and cachetic patients showing pustular lesion and abscesses, is the following:

℞ *Quiniae sulphatis* gr. viii.
Acidi sulphurici diluti M x.
Ferri sulphatis gr. xxxii.
Magnesii sulphatis ℥ iii.
Tincturae zingiberis ℥ ii.
Aquae q. s. ad ℥ viii.
 Sig. Tablespoonful in table-spoonful of water with a table-spoonful of cod liver oil floating on top, night and morning.

This is an excellent remedy which I have used many times with splendid results. Many other combinations and formulae will suggest themselves to the practitioner to suit the case in hand. Among other internal remedies arsenic, especially in the form of Fowler's solution, is highly recommended by some dermatologists, but I have rarely used it because of the gastric irritation which so frequently follows its use. In some cases a combination of the chlorides of iron, quinine, arsenic and mercury has given good results

LOCAL TREATMENT.

Local treatment should be begun by the opening of all pustules and abscesses, and expression of comedoes under aseptic

conditions. The removal of comedoes is especially important as they are the forerunner of the acne lesion. The remedies to be applied locally are usually incorporated in ointments or dissolved or suspended in lotions. The combinations proposed for the local treatment are almost legion. I have found, however, that the intelligent use of a few well-tried remedies has sufficed to produce a cure in most cases. Sulphur is undoubtedly the most generally useful of all drugs used locally and is a constituent of most formulæ so used. Ichthyol, Beta naphthol, ammoniated mercury, zinc sulphide, bichlorid of mercury and resorcin are some of the other remedies used locally. Sulphur when used in ointment form is used in the proportion of one drachm or two drachms to the ounce; when used in lotions one drachm in four fluid ounces. It does not seem necessary in this paper to go into the formulæ for local use as they can be obtained from any work on dermatology, and the object of this paper has been not to lay down any hard or fast rules for the treatment of acne, but a plea for the better understanding and treatment of these cases by the family physician.

HYSTEROPEXY FOLLOWED BY REPEATED PREGNANCIES.

REPORT OF THREE CASES.

*The Vice-President's Address to the Medical Society of the County of Albany,
Delivered at the Semi-Annual Meeting, October 10, 1906.*

BY J. D. MONTMARQUET, M. D.,

Cohoes, N. Y.

Mr. President, Gentlemen:—I wish to report three cases in which hysteropexy has been performed for retroversion; and in which pregnancy occurred repeatedly and went on to full term without interruption. In all these cases, miscarriage occurred before the suspension was performed; and after the operation, pregnancies, two in one case, three in the other, and one in the last, went on to a happy termination and labor was as easy in all cases as it ever was before their respective operations.

Mrs. T., native of the United States, housewife and mill operative by occupation; at other times, when unable to go to the mill on account of

her being pregnant, was obliged to take in washing and ironing in order to keep starvation from her door. Family history clear as far as she can remember. Was married at age of nineteen. Was confined for the first time a year after, normal delivery, no accident occurring, recovery perfect in about two weeks. Next baby was born five years later; after this baby, she complained of severe backache and sensation of dragging and pressure on the rectum. Two years after she again became pregnant; and when about two and a half or three months, I was called in for pain she felt in her back and severe constipation and frequent micturition; on making a vaginal examination, I found pelvis blocked by the body of the uterus, and by using gentle pressure that globe slipped above the promontory of the sacrum and all the above symptoms she complained of were relieved and she was confined in due time; after her confinement I tried postural treatment and rest in bed for about four weeks. This pregnancy was followed by three miscarriages in space of about two years; in two of these miscarriages I had to do some curetting in order to get away some detritus caused by her mishaps. I constantly urged an operation. She finally consented and the operation for ventro-suspension was performed April 23, 1903, by myself assisted by Dr. Archambault. On examination of the pelvic organs, the right ovary was found cystic and was removed, a small cyst was found on the left ovary and was removed by taking away a wedge-shaped section of the same. Her recovery was complete and very rapid; in four weeks she returned to her home. Since her operation she became pregnant twice and is now about to be confined again for the second time; she has had no return of the backache, has had no difficulty at childbirth, the uterus has remained in a very good position, and she never complained of dragging or pulling at the seat of the incision, during her pregnancies. She is enjoying good health, except for a floating kidney which troubles her when she is not pregnant, but when she is about at the fourth month of pregnancy she is entirely relieved. This trouble came to her during the early months of the first pregnancy following her operation.

The second case that I wish to report is that of Mrs. M., age thirty-three, native of the United States, mother of nine children. Her family history is good as far as it can be searched. In her personal history, it should be stated that she began to menstruate at sixteen, and married at seventeen. Prior to her operation she bore six children and had three miscarriages. The first miscarriage occurred ten months after being married, in the seventh or eighth week of gestation, without known cause. The second miscarriage occurred after the birth of the second child and travelling was considered the main factor in its occurrence. It was attended with severe hemorrhage and faulty involution, as a consequence of which the uterus was dragged back in a state of retroversion. The third miscarriage followed on this and was thought to arise from the faulty position of the organ. When the next pregnancy (the third) occurred, threatening of abortion took place about the fourth month, when the organ suddenly dislocated itself from under the promontory of the sacrum and cleared up and above the upper brim; from this on, gestation went on to full term without any further disturbance. From this childbirth until after the

fifth, the uterus remained in good position. Some months after the fifth childbirth, the uterus was again found in a state of retroversion, but free in the pelvis, movable and causing but little annoyance. The sixth pregnancy took place while in this condition and went on to full term, childbirth occurring December 12, 1900. This time, as after the third childbirth, special care was taken and measures resorted to with the object in view of preventing the recurrence of the falling back of the womb; the perfect involution of the uterus seemed, for a time, to favor such an expectation. In April, 1901, however, or about, patient began to complain of pain in the region of the sacrum, and of a sensation of great weight and as of something sticking her in the pelvis; upon examination, the uterus was found to have gone back into the posterior cul-de-sac, with a considerable degree of tenderness in and about that direction. Different lines of treatment and applications affording no relief, patient was again carefully examined by Dr. Archambault in July, with the following findings: right ovary enlarged, exquisitely sensitive and incarcerated in Douglass' pouch underneath the retroverted uterus; left side of pelvis free; mass formed by right ovary and uterine body only partially movable; condition much aggravated by superficial anal fissure. The doctor urged an operation, which was done September 7, 1901; it was a ventro-suspension with the removal of the diseased (cystic) ovary. A concomitant appendicectomy was also performed on account of a concretion being felt in the appendix. Patient was operated by Dr. Archambault: results were perfect. Patient went on thereafter without a return of any of the preceding symptoms, and she has been confined three times since without any trouble either during her pregnancy or at the time of her confinements.

I must state here that a considerable amount of pain and soreness was felt by both these patients across the lower abdomen, during the early months of pregnancy.

A third case, that of Mrs. A., native of the United States, age twenty-six, married, has one living child, and has miscarried once, this occurring at the end of the second month of gestation.

This patient is very thin and of delicate build; up to her tenth year she had all the different diseases of childhood, but since then she enjoyed very good health with one exception, severe dysmenorrhoea, from the age of thirteen, at which time she began to menstruate. She was married at the age of twenty-three and miscarried about ten months after, as mentioned above. On examination, her uterus was found in retroversion. The abnormality was thought to be the cause of her miscarriage. It was also held responsible for her dysmenorrhoea, and the severe pain she felt extending from the pelvis and region of the hip down the left leg, during her pregnancy. She recovered from her miscarriage very rapidly, but the pain persisted in the leg; it was quite severe while in bed, and never absent while up and around, rendering locomotion quite difficult and at times even impossible. She menstruated again October 24, 1904, being unwell for about five days, and during this period she suffered from an aggravated attack of the leg pain. Examination made after her menstruation revealed the uterus well down in Douglass'

cul-de-sac. Patient was advised to have the defect corrected. She was admitted to the hospital by Dr. Archambault and operated by him, assisted by myself and Dr. Mitchell. Hysteropexy was performed. The adnexa were found normal. The wound was closed in the ordinary way and primary union resulted; patient made a very nice and rapid recovery.

In February 1905, she became pregnant again, and carried the fruit of her conception to full term, without any trouble.

I attended her in her confinement November 30, 1905. It was a normal and spontaneous delivery. Since her confinement she has had none of the symptoms she complained of previous to her operation.

The report of these three cases does not establish a very large experience and I do not know that any very great deduction can be drawn from them, but the Kelly operation has been subjected to so severe criticism, it has been called so unscientific, it has been so energetically proclaimed as only deserving of being wiped out from all gynecological text-books, that it has appeared not out of place to put on record the absolutely satisfactory results which we have seen follow its use. Of course, it is well conceded that the Alquist-Alexander operation is the ideal operation, the operation the most physiological, but the cases for its application are fewer and of more delicate choice; it is in our opinion the "select" operation of selected cases. As to the majority of cases the hysteropexy of Kelly remains for us superior to all the other procedures, including the different methods of ligamentopexy, such as Ruggi-Wylie, Mann, Bode, Polk, Dudley-Baudoin, Dartigues-Caraven, and less likely to be followed by failure or unsatisfactory results.

Gentlemen, in calling me to be vice-president, I received at your hands an honor which I appreciate very much, but which I have found rather onerous, however I thank you just the same. I thank you also for your kind attention this evening.

Editorial

"I think," said Mrs. Britain, applying herself to her pockets and drawing forth an immense bulk of thin books and crumpled papers; a very kennel of dogs'-ears: "I've done everything. Bills all settled—turnips sold—brewer's account looked into and paid—'bacco pipes ordered—seventeen pound four, paid into the Bank—Doctor Heathfield's charge for little Clem—you'll guess what that is—Doctor Heathfield won't take nothing again, Ben."

"I thought he wouldn't," returned Britain.

"No, he says whatever family you was to have, Ben, he'd never put you to the cost of a half-penny. Not if you was to have twenty."

Mr. Britain's face assumed a serious expression, and he looked hard at the wall.

"An't it kind of him?" said Clemency.

"Very," returned Mr. Britain. "It's the sort of kindness that I wouldn't presume upon, on any account."

The Battle of Life.

CHARLES DICKENS.



The Albany Guild

On another page of this issue of the ANNALS is a synopsis of the work done by the Guild during the last six months. It shows that the very large number of eight thousand and more visits have been made by the nurses during that time, and that six hundred and eighty-six new cases applied for assistance, with a total of seven hundred and eighty-six cases under care. Thirteen nurses were employed, of whom five were graduate registered nurses. The other nurses, known as "assistant nurses," or "pupil nurses," are undergoing a course of instruction by the Guild. They serve for three years and then receive a certificate of qualification from the Guild. This plan enables the Guild to place nurses in houses where they are needed, in some cases as a matter of charity, in others, at a cost less than that of the graduate trained nurse. The subordinate place of the assistant nurse is recognized, and her work is done under the supervision and direction of the trained nurses; who make daily visits for inspection and instruction. The patients thus under care have the benefit of the experience of graduate nurses at a moderate expense. The assistant nurses thus employed are required to give

three years to the work of the Guild before receiving a certificate of qualification. The plan is an excellent one, has proved successful and has been highly commended. That the inspiration to be derived from teaching by physicians may not be lost, courses of lectures covering the three years have been arranged, and the physicians of the city have responded generously to this demand upon their time. That eighty-four physicians have called upon the Guild for assistance is a noteworthy indication of the value placed upon this excellent organization.



For opportunity to publish the following letter, from the papers of the late Dr. Alden March, the **ANNALS** is indebted to Mr. Alden March, his grandson. The reference to the "class" will recall in affectionate remembrance to students of forty years ago the devotion to his college work manifested by Dr. Armsby. The expression of loyalty to the Government and the exasperations incident upon the Civil War suggest a very instructive episode in the experiences of Americans abroad in that troublous time, and the comments upon Parisian surgeons and physicians whose names and works are now classical will familiarize the reader with the personalities which have been impressed upon the practice of medicine for all time.

**An Historical
Letter**

PARIS, *October 31, 1861.*

My Dear Friend:—I felt many regrets at leaving a home where I have spent more than half my life, but none more keenly than a separation from *one* with whom I have been so intimately associated for nearly thirty years. In joy and sorrow, in trial and success, our hopes, our struggles, our sympathies have been closely allied, and if God spares my life to return, I hope to be permitted to labor on with you in the good work to which you have so long and so successfully devoted yourself. If I never return, I wish once more to testify in stronger terms than I can express, my deep and enduring gratitude for your kindness, your sympathy, your aid, while I was a student under your instruction and during the early struggles of my professional life. I was sorry I could not meet the class once more before leaving, but my strength was not equal to the effort. The least excitement, or extra effort, threatened a recurrence of my complaint, and I

felt quite weak and debilitated when I went on board the ship. You may say to the class, whose faces are still fresh before my mind, I hope to meet them again in our own redeemed and happy country, and until then I shall pray for their welfare and happiness.

We had a rough and stormy passage of thirteen days, and suffered much from sea-sickness and cold. The *Edinburgh*, a screw steamer that left New York the same day we did, kept us company until the tenth day; a very remarkable circumstance on the wide ocean. We remained at Havre a few hours and then proceeded on to Rouen where we remained over one day to look at the fine old churches and other monuments with which that ancient Capital of Normandy abounds. The country all the way from Havre to Paris has improved surprisingly since I was last here. The Seine is lined by large, and many of them, new manufacturing towns. New vineyards and new forests have been planted. I had passed four times over the same route before, and was surprised at the vast improvements and evidences of prosperity. Paris, too, has nearly doubled in population and extent since you were first here. New streets, squares and parks have been opened and embellished on the most magnificent scale. The Emperor is popular with the people, for he has given a stable government and unexampled prosperity to France.

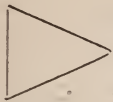
It is said there are 200,000 foreigners in Paris. The number of Americans is less than usual, in consequence of the war. Mr. Yancey, Commissioner from the Rebel "Confederate" States, is here, and many other Southerners, who are active in misrepresenting the issues which divide our country. But they can effect nothing in France, though Galignani's Paper, the only English publication in France, is daily filled with articles in favor of the Rebels. They find most sympathy in England, and have congregated in large numbers at Liverpool, where they are active in prejudicing the Public Mind against the Government. The American medical students who are here from the North are loyal and eager to return and give their services to their country. There are several from the South who cannot return. They are equally active in favor of *their* cause. They are guarded in their conversation with me. Dr. Sims is here and is repaying the kindness so profusely lavished upon him by his Northern friends with the basest ingratitude. He will not take the Oath of

Allegiance and of course cannot get his passport. He might return without one if he would not obtrude his traitorous sentiments so publicly and freely. But on every occasion he is condemning the Government and declaring his adhesion to the Confederate States.

I have devoted my mornings to the hospitals, beginning with the La Charité. I had been in the hospital but a few moments when Velpeau entered in his white apron and black velvet cap, looking just as he did nineteen years ago. I followed him through the wards and was *introduced* as he entered the theater. He enquired if I had been in Paris. I replied, "I followed you here in 1842, and you seem no older than at that time." He said, "No, no, Monsieur, I am more old, seventy-four, and almost done." He was active, quick in his speech and movement and really seemed no older than when I saw him first, almost twenty years ago.

After the Clinique we went into the operating room and Sims operated for vesico-vaginal fistula. After the operation he exhibited his instruments and explained their use. Malgaine and Langier were present. Malgaine is pale, sharp featured, wears a black wig and spectacles. His eye is sharp, playful and restless. Sims says, "this is my Virgin speculum," taking up a small one. Malgaine says, "What produces the disease in the Virgin?" Sims spent most of his time in giving a history of his inventions and of the efforts of his rival to steal his discovery. Do not think I wish to underrate Dr. Sims, but I felt, with all the loyal Americans present, that Dr. S. should have left politics behind him if he wished to be regarded as an American citizen.

At Hotel Dieu, I saw Jobert, his face the same, but his hair and whiskers, which were black when I last saw him, are quite thin and grey. He does not do much at the hospital now, since he is Surgeon to the Emperor. I also saw at the Hotel Dieu, Trousseau, Robert, Grissolle and Guineau de Mussy. The latter, a young man when I last saw him, has now reached the summit, as the Hotel Dieu is considered. I also met Jarmain the anatomist, and Duchenne the electrician, who is curing all disease with his new apparatus. At La Pitié I saw Maisonneuve, Goupil and Marotte; Maisonneuve is using the chloride of zinc for almost everything, as an escharotic. He has little wedged-shaped pieces called Flèches, of this size, about as thick as a penny, which he



inserts in the soft parts after making an incision. He surrounds tumours, separates them from the healthy parts by a slough and then inserts the Flèches in the tumour itself and thus destroys them. The profession here do not sanction this practice, but tolerate it in him on account of his high position. Becquerel is also at La Pitié. He is now out of the city and is said to be insane. At the clinique I heard Pagot, one of the most eloquent men in Paris. At St. Louis I saw Denouville, Verneuil, Hardy and Bazin. The two last are authors, and devoted to skin diseases. They cure the itch in one hour; first a warm bath, then rub the surface one hour with an ointment of Carbonate of Potash, Sulphur and Lard. This is sometimes left on twenty-four hours and then another bath and the cure is said to be complete.

Cuzean the obstetrician is insane from hard labour, it is said. At the Hospital Lariboisière I saw Chassignac operate several times with his écraseur and introduce his perforated tubular issues. Nélaton was out of the city. He and Jobert stand at the head of surgery, but they have no Larrey, Dupoutheris, Roux or Lisfranks now, nor an Andral or Louis. Curvelhier is living but does not lecture.

I trust you will remember me to the class and all inquiring friends, and believe me ever and truly,

Yours, J. H. ARMSBY.

P. S.

No new hospital has been built in Paris for many years. There is no good operating room that I have seen, nor a lecture room with backs to the seats. The hospitals are all imperfectly ventilated and erysipelas is generally prevalent after surgical operations. The beds have the same dirty white curtains, and cerates and mercurial ointments are used as freely as ever. They have a perforated cloth for cerates and ointment which is very good. I visited the instrument shops but saw no new or improved instruments. If I had been on my return, I could have bought a great variety of morbid specimens of bones of the successor to Guy Ani. I shall look at the hospitals of Turin, Milan, Venice, and write you again when we get to Naples. They have a famous hospital and Medical University at Naples, in which I hope to find much to interest me.

Ever affectionately yours,

J. H. ARMSBY.

**A Hint for
the Experts**

During a visit to the patients of a prominent hospital for the insane, a physician asked one of the inmates to prepare for him a definition of sanity, stating that men outside of institutions had taken full liberty to express their ideas as to what constituted insanity, but that no characterization of the outside citizens had yet been given by the men behind the gate. In reply the following definition was at once given, and taken down *verbatim*:

“Sanity is a depreciation of the tissues of the human body, by which the urine is extracted from the system and the foeces are rejected from the colon; the operation of the colon promotes perspiration. The colon can be evacuated by using Atwood’s Jaundice Bitters.”

Little Biographies

XI. SANTORINI.

GIOVANNI DOMINICO SANTORINI, whose name is familiar to us through its connection with the small conical cartilages mounted on the Arytenoids and the Musculus Risorius, was born in Venice in 1680, the son of an apothecary.

After finishing his classic studies he went to Pisa under Malpighi, Bellini and Delfini.

Under these masters his progress was very rapid and at the finish of his course he returned to his native city, where he was appointed Professor of Philosophy. Although not yet twenty-five, he published some short works on medicine, in which he demonstrated an ability for keen observation. Later he was appointed Prosector in Anatomy and afterwards Professor.

His lectures and his unequalled dexterity in dissection drew to him students from all parts of Europe. Through all his other work he continued a large medical practice.

His writings, which were published in Venice and in Rotterdam, included treatises concerning the structure and action of nerves, the nutrition of animals, concerning piles, and of the catamenia.

In the *Observations Anatomicae*, 1724, Santorini deals with the color of negroes, the seat of which he finds in the reticular tissue

and which he is forced to attribute to the abundance of the secretion of gall. The other chapters are devoted to descriptions of the ear, brain, lachrymal gland, larynx, nose and pharynx, the viscera of abdomen and pelvis. Other works include the history of a foetus delivered from the anus, observations concerning obliteration of the rectum, rupture of the uterus and of the ovaries, etc.

He started seventeen tables descriptive of the structure of the mammary glands and of the tunica vaginalis testis, but these he was unable to finish. They were completed, however, by Girardi, thirty-eight years after his death, which occurred in 1736, in his fifty-sixth year.

E. V. FREDERICK.

Scientific Review

AMEBIASIS: ITS ETIOLOGY, PATHOLOGY, SYMPTOMATOLOGY AND TREATMENT.

1. Amebas: Their Cultivation and Etiologic Significance by W. E. MUSGRAVE, M. D., and MOSES T. CLEGG, M. D. *Publications of the Bureau of Government Laboratories*, No. 18, October, 1904.
2. The Pathology of Intestinal Amebiasis, by PAUL G. WOOLLEY, M. D., and W. E. MUSGRAVE, M. D. *The Journal of the American Medical Association*, 1905, XLV, 1371.
3. Symptoms, Diagnosis and Prognosis of Uncomplicated Intestinal Amebiasis in the Tropics, by W. E. MUSGRAVE, M. D., *Journal of the American Medical Association*, 1905, XLV, 830.
4. Treatment of Intestinal Amebiasis (Amebic Dysentery) in the Tropics, by W. E. MUSGRAVE, M. D. *Publications of the Bureau of Government Laboratories*, No. 18, October, 1904.

Musgrave and Clegg's studies carried out in the Government Laboratories in the Philippines have contributed much to our knowledge of dysentery and have made more clear certain doubtful points in the etiology and pathology of this disease. They suggest the term Amebiasis for infection with amebas and this term undoubtedly should be adopted as it is in keeping with the nomenclature which sanctions Uncinariasis, Trypanosomiasis, Filariasis, etc. Their work includes the study of amebas in cultures, in human subjects during health and in those suffering from dysentery (amebic) and also in inoculated animals.

As matters of diagnostic technique they recommend the examination of the fluid stool caused by a saline cathartic and

that a diagnosis should never be made unless motility of the amebas is observed.

In their study of cultures they found that the organisms are most easily and constantly grown in the presence of bacteria and although many different media were tried the most satisfactory was that composed of agar 20 parts, sodium chloride and beef extract each 0.3-0.5 parts. The most favorable reaction was one per cent. alkaline to phenolphthalein.

As to the presence of amebas in the normal colon they are very skeptical and conclude that no intestine containing them should be considered healthy until after microscopic examination of the stool. It is possible that they may occasionally be present in the normal intestine, but presence for a period equal to the greatest incubation period of the disease has not been demonstrated.

As to the occurrence of pathogenic and non-pathogenic varieties the investigators state that they have made no observation which justifies the conclusion that non-pathogenic amebas are propagated in the normal intestine. Therefore, the only safe rule would be to consider that all amebas are or may become pathogenic.

Inoculation experiments with cultures were convincing for the most part in proving the amebas to have a causative relation to the intestinal lesions. Of the various animals used the monkey was the most susceptible and amebic dysentery was produced in several of these animals and in man, in one instance, by the ingestion of cultures grown with nonpathogenic bacteria. An opportunity to compare the early lesions in animals with the early lesions of man was afforded by a group of cases of amebic dysentery in which death occurred early in the disease as the result of an intercurrent epidemic of pneumonia. The experimental lesions were found to be identical with those of man. Upon these observations they base their conclusion that the ameba is the etiological factor in amebic dysentery.

As a direct continuation of the studies in etiology, Woolley and Musgrave have made an exhaustive study of the pathology of the disease. Among the many articles in the literature on amebiasis those of Councilman and Lafleur, Harris, Howard and Rogers are considered to be the most valuable and with the general conclusions of these authorities Woolley and Musgrave are in accord.

They found that for the simple diagnosis of amebas in tissues hardened in alcohol, the eosin toluidin-blue and thionin-oxalic acid methods were most satisfactory. For detailed examination and cytologic study Borrel's stain after sublimate preservation gives clear, distinct pictures and is only surpassed in definition and delicacy by Heidenhain's iron haematoxylin.

Gross lesions. They found that while in certain cases, perhaps the majority, the macroscopic lesions were pathognomonic, there were others in which the picture was deceptive. A truly pathognomonic picture is presented when the mucous membrane shows all the types of lesions and the walls of the gut are thickened and oedematous.

For convenience in description, they have arbitrarily classified the various stages as follows:

1. *Pre-ulcerative lesions.* These are the "small raised dots" of Rogers. They vary in size from 0.5 to 2 millimeters and are intensely injected. Erosions of the superficial layers of the mucous membrane with moderate injection are usually also present. Thickening of the submucosa is not common in this stage. These lesions affect all portions of the affected gut and although they may be seen in chronic cases are most numerous in the more acute cases.

2. *Ulceration.* A. The type of Harris: These lesions although rarer than the classic type are not uncommon. They may be an intermediary stage between the pre-ulcerative lesions and the undermined ulcer. The ulcers are round or oval, with abrupt edges, which are thickened and intensely congested. The bases are clean, greyish and oedematous, often situated at the apices of the intestinal folds, and have a tendency to extend along the short axis of the bowel. These ulcers generally involve the submucosa and rarely the circular muscle, but never extend deeper. This is the most common type in the ileum.

B. Undermined or classic ulcers. In the early stage these are seen as minute, yellowish or greyish spots in the mucosa, frequently in the center of the "small raised dots" of Roger, described as the pre-ulcerative stage. The process extends in the submucosa parallel with the surface in all directions; the base, as a rule, being formed by the circular muscle and the edges by the overhanging mucous membrane. The submucosa becomes thickened and oedematous as may also the muscular and peritoneal coats. The ulcers vary in size from pin-head depres-

sions to losses of substance as large as the palm of the hand and may coalesce beneath or on the surface. Very early in the ulcerative stage the omentum may be found adherent to the peritoneal surface of the gut, so playing an important protective part. Secondary infection may modify the course of the disease. Perforations in the ulcerative stage may also occur.

Healing. The healing of the small lesions may be complete in the sense of a more or less perfect regeneration. Repair of large lesions is characterized by the formation of scar tissue with subsequent contraction. Complete cure may be the eventual outcome, but a chronic atrophic or catarrhal enteritis may result.

Distribution of the lesions. In the majority of cases the entire large bowel is involved, except the extreme lower part of the rectum. Occasionally the appendix is involved and lesions may occur in the small intestine, but are always confined to the lower ileum. The findings at necropsy are indicative only of the distribution of the lesion immediately preceding death, for the course of the disease is undoubtedly influenced by treatment.

Histology. The mucous membrane between the ulcers is but little changed and in many places no alteration can be seen. In and about the lesions there is a tendency to glandular hypertrophy with mucoid degeneration and cyst formation. The cells of the mucosa take the stain more diffusely than do normal epithelial cells and there is some distortion of the glands beneath the surface. In many cases the cells lining the glands are separated from the basement membrane and lie singly or in clumps in the lumen. Amebas are often found among these cells and between them and the basement membrane. The cellular elements in the inter-glandular tissue and submucosa are increased; congestion and oedema of these tissues are constant conditions. A slight oedema is about the only change noticed in the muscularis mucosa. In these lesions bacteria are very few in number.

Advanced lesions. In more advanced lesions the glands of the adjacent tissue are hypertrophied and the cells show mucoid degeneration with some lymphoid infiltration and congestion. The cells of the necrotic mucous membrane are fused with leucocytes, granular detritus, amebas and bacteria into a more or less well formed membrane. The submucosa is more congested and oedematous and more amebas are found than in the early lesion. The necrotic process extends some distance beyond

the ulceration and often beyond the distribution of the amebas, but amebas may in early lesions be seen in healthy tissue.

The ulcers have a granular base composed of coagulated serum, degenerated cells, amebas, bacteria and few red blood corpuscles. The most important features of the advanced lesions are the coagulative necrosis, lymphoid cell infiltration, congestion and thrombosis with but relatively few leucocytes.

The character of the amebas in the tissues. The writers discuss the character of the amebas in tissues to some length and also their staining properties. Borrel's stain is perhaps the most brilliant and with this the amebas are less deeply stained than the surrounding tissue. The edge of the organism appears as a fine blue line which is less distinct about the pseudopodia. The ectoplasm is seen as a finely reticular or almost hyaline substance, the granular part of which is a very faint blue. The endosarc has a granular structure, is more deeply stained than the ectosarc and of a purplish or greenish tinge, according to the degree of decolorization. Bacteria may be present in the endosarc. The nucleus is colored violet or purple and may be surrounded by a clear space. Its outlines are sharp and within it may occasionally be seen crimson granules and a large round mass, the nucleolus. Ingested cells may also be seen in the protoplasm.

Comparing the amebas in cultures with those in tissues, the relative size of the nucleus is the same as is also the relation between the protoplasm and the nucleus, but in the tissues the contractile vacuole is not so distinct and the nucleus although the same relative size does not present the same appearance.

The relation of amebas to healthy tissues. It is not known whether amebas are able to attack or pass through an intact mucous membrane. It seems probable that in order to enter the deeper layers there must be some departure from the normal and that simple catarrhal conditions accompanied by erosion of even a few of the superficial epithelial cells would offer the conditions necessary for invasion. Generally speaking, the epithelium has as great a resistance to the ameba as has muscular tissue.

Relation of amebas to bacteria. Bacteria do not limit the activity of the amebas unless perhaps in the case of the pyogenic cocci.

The writers reached the following general conclusions:

1. Intestinal amebiasis is a peculiar ulcerative condition of the

intestine caused by *Amoebi coli* (Lösch) usually confined to the large intestine, though occasionally (7 in 200 cases) the ileum is affected and more often (14 in 200 cases) the appendix is involved.

2. In the majority of cases the condition affects the entire bowel (159 in 200 cases), though it may be limited to one or more portions most commonly the caecum and ascending colon (23 in 200 cases).

3. The ulcers show a tendency to be undermined, due to the lack of resistance on the part of the submucous layer of the bowel.

4. The organisms may enter the blood vessels very early in the disease and may be transported to the submucosa without lesions of the muscularis mucosa.

5. The disease is a subacute chronic inflammatory process, as shown by the character of the exudate, by the early formation of granulation tissue and by the absence of leucocytic infiltration.

6. Complete healing may be accomplished, or a condition of chronic atrophic enteritis or chronic catarrh may persist, which is known as sprue or psilosis.

Musgrave believes that the symptomatology of amebic dysentery varies more than is generally supposed and therefore discusses the subject under the following four clinical divisions with particular reference to early diagnosis and to the peculiarities of the milder forms:

1. Latent and masked forms.
2. Mild and moderately severe forms.
3. Severe cases, including gangrenous and diphtheritic conditions.
4. Infection in children and the aged.

These clinical forms often change from one to the other and may do so in the same patient several times during the course of the disease. The process is essentially a chronic one, but acute symptoms frequently manifest themselves.

Latent infections. By this term are designated those cases in which there is a definite lesion containing amebas, but without diarrhea or other symptoms which would ordinarily lead to a diagnosis. The course and outcome as in other types varies greatly. Usually after a period varying from a few weeks to many months, more active symptoms develop and the symptoms

become those of a more or less severe dysentery. On the other hand some of these cases go on to recovery or death without ever showing active diarrhea. The symptoms may be entirely absent subjectively and objectively for considerable periods of time, but usually conditions develop which indicate the nature of the process. Such conditions are the presence in the stools of mucous mixed with old blood, tissue elements and amebas. Also indefinite, dull, aching pains first noticed during the night or early in the morning may attract attention. Indigestion, lassitude, headache, foul breath, slight loss of weight and on deep palpitation tenderness along the colon, most often over the caecum, and sometimes a thickened intestine may be made out.

A latent or mild infection may be masked by the clinical manifestations of several diseases, as gastritis, chronic constipation or appendicitis.

Mild or moderately severe cases. The larger number of these develop from the latent cases just described and the time of onset is based on the appearance of the diarrhea. In the majority of properly treated patients the disease clinically rarely becomes more than a diarrhea, but here, as well as in a large number of untreated cases, the diarrhea is only preliminary to a more violent clinical picture. Many cases even without treatment never become dysenteric. The course in uncomplicated cases is very chronic and the outcome rarely recovery, being most commonly the development of "sprue" or chronic gastro-enteritis. The most frequent termination is death from intercurrent diseases. Following a gradual onset from a period of known latency, the diarrhea is usually intermittent and more marked in the mornings, consisting of two, three or four soft semi-fluid stools without mucous or blood passed without pain. This condition may last for one to several days and is usually followed by constipation. Succeeding outbreaks usually become more severe and may last for days, weeks or months and with finally the appearance of blood and mucous. This is the stage at which the patient most often appears for treatment. The onset may be more acute with the appearance of blood and mucus in the stools from the first. Usually the more acute the onset the more rapid the development of more severe symptoms. In not a few of these cases the sudden outbreak is due not to amebas, but to some extrinsic cause.

Severe cases. These cases usually develop from the previously

existing latent or milder type. The cases with diphtheritic and gangrenous lesions belong to this class. These severe anatomical changes are usually due to a concomitant or secondary infection with other organisms. The onset here is quite sudden and characterized by the symptoms of an acute bacillary dysentery. The course is short and death may result from toxæmia, perforation of an ulcer or from exhaustion. Not infrequently the severe symptoms subside under treatment and the disease becomes moderate or even mild in type.

Infection in children and the aged. Musgrave concludes that children possess a natural immunity, for they have as a rule but a mild type of the disease which is very amenable to treatment. The aged also seem to have a decided natural immunity, but, when once established, the disease is usually of more serious import than even in young adults.

Analysis of symptoms. All varieties of facial aspect are seen from a healthy aspect in some of the rapidly fatal cases to the emaciated, anaemic, yellow and even cachectic appearance seen in some of the long standing cases. The skin early in the disease shows no noticeable change, but later there is a general wasting and scrawny dull goose flesh skin, of a muddy color or even jaundiced. Frequently there is a characteristic odor. In occasional cases the night sweats equal those of tuberculosis. Oedema of the extremities is not always indicative of nephritis, although in some cases there is an associated Bright's disease.

The organs of digestion bear the brunt of this disease and it is here that diagnostic symptoms are most frequently observed. In the latent and milder forms the appetite as a rule is good. Later in the disease food may increase the diarrhea and disturb the already disordered digestive tract.

The tongue is of a diagnostic importance only in cases of sprue when it shows small ulcers along its side and under the tip. Thirst is generally increased and there is usually a burning pain along the œsophagus which is aggravated by acids or solid food. Symptoms referable to the stomach depend on the various stages of catarrh and do not differ from those of catarrh due to other cause.

Diarrheic or even dysenteric stools are present at some time during the course of the disease in the majority of the cases which proceed to a fatal termination although true dysenteric stools are not the rule in patients placed under proper treatment

early in the disease. There is nothing characteristic in the macroscopic appearance of the stools. The morning specimens are usually the first to have a diarrheic appearance and are often copious with a tendency to ferment. The odor of the feces is offensive and all but characteristic. The next most important point of diagnostic value obtained from a macroscopic examination is the indication of the location of the infection by the character of the blood when such is present.

The changes in the blood are essentially those of a secondary anaemia. Early in the disease the blood shows little or no change; later the changes are due to anaemia.

Fever is usually absent throughout the course of the uncomplicated disease. When present it is usually of an intermittent type, highest in the afternoon. Occasionally in advanced cases the temperature is subnormal, particularly during the forenoon.

The nervous system probably does not suffer much as a result of amebic infection although the writer's opinion is based only on supposition.

The variety and intensity of pain in this affection is very great. It occurs partly as a direct consequence of the local destruction and partly as the result of more remote and sometimes inexplicable causes. The genito-urinary and respiratory systems and the organs of special sense rarely exhibit lesions of any importance in the uncomplicated disease. The same is true of the joints and the osseous system though complications may involve any of these structures.

Diagnosis.—There are no classical symptoms and hence an absolute diagnosis can be made only from microscopic examination of the feces.

The following are the most important points to be considered in diagnosis.

1. The bowel evacuations particularly their odor and the presence or absence of blood. Consistence, quantity, frequency and the presence or absence of mucus, are much less important.

2. Abdominal soreness, which is increased on pressure. Its diagnostic importance is greatest when of maximum intensity over the caecum and ascending colon.

3. The so-called "indigestion," headache, general lassitude, with pain below the stomach after eating is of little importance taken alone.

4. Loss of weight especially in the presence of a good appetite is quite important and is the best guide as to the progress being made by the infection. When taken together in cases where careful palpation reveals a thickened tender colon, in places where it may be felt, they make the nearest approach to a sure diagnosis possible without microscopic examination of the feces.

Prognosis.—Several points should be taken into consideration and the evidence in each individual case carefully weighed before an expression of opinion is justifiable. The principal determining factors are the manner of treatment, age, nationality, general condition of the patient and the duration of the disease at the time treatment was instituted, reaction to treatment, the presence of complications and associated disease and the location of the amebic lesions.

The writer concludes that intestinal amebiasis manifests itself in a much broader and more comprehensive clinical picture than is generally allotted to it. Waiting for bloody mucous stools to appear before making a diagnosis and instituting treatment is responsible for a large percentage of the present mortality from the disease. Physicians are justified in treating as amebic dysentery every patient in the stools of whom motile amebas are found.

Musgrave's discussion of the treatment of the disease deals with some of the more important and heretofore neglected points in prophylaxis and is an attempt to apply some of the experimental facts which he and Clegg brought out in their article on the cultivation and etiologic significance of amebas.

In view of the fact that the majority of cases in the tropics can be traced directly or indirectly to infected water they conclude it is of the utmost importance that all waters in any way brought into contact with the human body shall be thoroughly and properly sterilized by heat. This rule applies also to vegetables and fruits or any other article of food which may have been in contact with water. Personal cleanliness is most important. Although small quantities of alcohol undoubtedly exert some destructive influence on amebas it has not been proved that the habitual use of alcohol in any way prevents infection. Methods of protection must be followed constantly and the body must be kept in the best physical condition by exercise and proper living.

Routine measures of treatment will prove unsatisfactory in the majority of cases. To treat the disease correctly the greatest stress should be laid upon the findings made at the physical ex-

amination, the clinical manifestations and the probable duration of the disease at the time the patient comes under observation.

As it is obvious that the nutrition of the individual must be properly maintained, a very liberal diet should as a rule be allowed. Irritating foods and those liable to fermentation or which may leave a large residue in the large bowel should be excluded. In individuals greatly emaciated as the result of long continued disease and who do not react to treatment in local environment, a change of climate is of special value.

No drug acts specifically. The salts of bismuth in the absence of local treatment are useful but should never be given in conjunction with quinine enemas, as they are insoluble in the intestinal juices and so form a tenacious coating about the ulcers preventing other substances used in local treatment from taking effect.

Ipecac while it may be of value in ordinary forms of dysentery, when given in the doses and manner prescribed by its most ardent admirers is useless and often dangerous.

Magnesium sulphate and other salines are not recommended as routine treatment for considerable periods of time and should be used with caution excepting when an active cathartic is needed. A combination of mineral acids, especially of hydrochloric with pepsin, is useful in controlling the nausea caused by enemas. The intestinal antiseptics are of service in allaying fermentation and may possibly limit the number of bacteria. The more important are salol, guaiacolcarbonate and acetozone. The internal administration of quinine even if malaria co-exists is not advised as the object sought is better obtained by quinine enemas. Strychnine and other powerful stimulants should be used with care during the administration of enemas on account of their stimulating action on the bowel.

The best results are obtained in the largest number of cases by local treatment. Each case requires careful consideration and the treatment should be varied according to the indications. The apparatus used and the methods of giving the enema are described in detail by the writer. The object sought is to give the largest quantity of fluid which can be administered and retained. To secure satisfactory results the diseased part of the bowel must be distended and the fluid retained from five to fifteen minutes.

The temperature of the solution often makes a material difference in its tolerance. The most satisfactory temperature is that

of the body. Although Tuttle reported good results from the use of ice cold injections Musgrave did not find them universally satisfactory.

Of the various drugs used the salts of quinine have given by far the best results. They should be used in an acid solution of 1-1500 to 1-750. Acetozone and alphozone in acid solution 1-5000 or 1-2000 either alone or in combination or alternating with quinine also give very satisfactory results.

In very chronic cases the substitution of a 1-10 to 1-2 solution of hydrogen peroxide for the quinine enema gives surprisingly good results as does also the occasional injection of a silver nitrate solution.

The writer recommends from one to three enemas in twenty-four hours. He also emphasizes that no recommended routine treatment will be found satisfactory as each case requires careful consideration and a treatment adapted to special conditions.

KENNETH D. BLACKFAN.

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH—ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS FOR SEPTEMBER, 1906.

Deaths.

	1902	1903	1904	1905	1906
Consumption.....	16	18	14	22	9
Typhoid fever.....	2	1	3	1	0
Scarlet fever.....	0	2	0	0	1
Measles.....	0	0	0	1	0
Whooping cough.....	1	0	0	1	1
Diphtheria and croup.....	1	1	0	0	5
Grippe.....	1	1	0	0	5
Diarrhoeal diseases.....	9	3	9	13	5
Pneumonia.....	6	6	5	3	8
Broncho-pneumonia.....	1	0	0	2	0
Bright's disease.....	11	7	16	19	11
Apoplexy.....	3	6	9	10	5
Cancer.....	4	12	7	7	7
Accidents and violence.....	8	5	5	8	11
Deaths over seventy years.....	14	26	18	28	25
Deaths under one year.....	19	19	19	23	20
Total deaths.....	119	139	123	165	135
Death rate.....	14.47	16.90	14.96	20.06	16.51
Death rate less non-residents	13.62	15.81	12.89	17.75	13.74

Deaths in Institutions.

	1902		1903		1904		1905		1906	
	Resi- dent.	Non- resi- dent.	Resi- dent.	Non- resi- dent.	Resi- dent.	Non- resi- dent.	Resi- dent.	Non- resi- dent.	Resi- dent.	Non- resi- dent.
Albany Hospital.....	3	4	15	6	6	9	11	6	5	15
Albany County Jail....	0	0	0	0	0	0	0	0	0	0
Albany Orphan Asylum	0	0	1	0	0	0	0	1	0	0
County House.....	3	2	3	0	1	2	3	1	2	1
Homeopathic Hospital.	1	1	1	1	1	1	2	1	0	2
Hospital for Incurables.	0	0	1	0	0	1	2	0	0	0
House of Good Shepherd	0	0	0	0	0	0	0	0	0	0
Home for the Friendless	0	0	1	0	0	0	0	0	0	0
Little Sisters of the Poor	0	0	2	0	0	0	7	2	3	2
Public Places.....	0	0	0	2	1	2	0	3	0	0
St. Francis de Sayles										
Orphan Asylum....	0	0	3	0	0	0	0	0	0	0
St. Margaret's Home..	4	0	4	0	1	0	2	2	2	1
St. Peter's Hospital...	4	0	2	0	2	2	2	3	4	1
Dominican Convent...	0	0	0	0	2	0	1	0	0	0
5th Precinct.....	0	0	0	0	0	0	1	0	0	0
Births.....										37
Marriages.....										38
Still births.....										5

In the Bureau of Plumbing, Drainage and Ventilation there were one hundred ninety-two inspections made of which one hundred twenty-six were of old buildings and sixty-six of new buildings. There were forty-eight iron drains laid, twenty-one connections street sewers, thirty-four tile drains, three urinals, twenty-one cesspools, forty-five wash basins, forty-one sinks, thirty-four bath tubs, twenty-five wash trays, three trap hoppers in yard, seventy-four tank closets, three slop hoppers. There were one hundred fourteen permits issued of which ninety-three were for plumbing and twenty-one for building purposes. There were sixteen plans submitted of which six were of old buildings and ten for new buildings. Five houses tested on complaint, two with blue, red, and three with peppermint and there were fifteen water tests made. Twenty-three houses examined on complaint and forty-four re-examined. Twelve complaints were found valid and eleven without cause.

BUREAU OF CONTAGIOUS DISEASE.

Cases Reported.

	1902	1903	1904	1905	1906
Typhoid fever	8	11	19	18	15
Scarlet fever.....	1	11	1	6	7
Diphtheria and croup.....	33	21	9	7	20
Chickenpox.....	2	1	3	1	0
Measles.....	0	4	1	1	0
Whooping-cough.....	0	1	2	1	3
Consumption.....	0	1	0	0	0
Totals.....	44	50	35	34	46

CONTAGIOUS DISEASE IN RELATION TO PUBLIC SCHOOLS.

	Reported.		Deaths.	
	D.	S. F.	D.	S. F.
Public school No. 1.....	2		1	
Public school No. 10.....		2		
Public school No. 13.....	1			
Public school No. 20.....		1		
Public school No. 21.....	1	1		
St. John's Academy.....	1			
Number of days quarantine for diphtheria:				
Longest.....	31			
Shortest.....		10		
Average.....				18½
Number of days quarantine for scarlet fever:				
Longest.....	35			
Shortest.....		21		
Average.....				28
Fumigations: Houses.....		13		
Rooms.....				31
Cases of diphtheria reported.....				20
Cases of diphtheria in which antitoxin was used.....				18
Cases in which antitoxin was not used.....				2
Deaths after use of antitoxin.....				4

Society Proceedings

MEDICAL SOCIETY OF THE COUNTY OF ALBANY

Semi-Annual Meeting, October 10, 1906

The semi-annual meeting of the Society was held in Alumni Hall, Medical College, on Wednesday evening, October 10, 1906. About sixty members were present.

The following physicians were elected to membership: Drs. W. P. Brierly, J. N. B. Garlick, W. D. B. Lester, Henry F. C. Muller, Harry Rulison and Luman B. Rulison

The Vice-President, Dr. J. D. MONTMARQUET, gave an address entitled "Hysteropexy Followed by Repeated Pregnancies."

Drs. W. G. MACDONALD and J. D. CRAIG were elected delegates to the State Society, to serve for two years; Dr. A. H. TRAVER to serve for one year.

Dr. J. H. MITCHELL was elected delegate to the Third District Branch.

The committee appointed at the last annual meeting to consider the question of bacteriological tests which might be made by the city of Albany, was unable to arrive at a unanimous conclusion and therefore submitted majority and minority reports. The minority report adopted by the Society is as follows:

It is the opinion of the undersigned that the present method of making bacteriological examinations of all cases of diphtheria and tuberculosis, both for purposes of diagnosis and to ascertain the clinical progress of these diseases at public expense, should be continued. It is further the opinion of the undersigned that bacteriological tests should be made at public expense for the indigent poor. In such other cases of contagious

disease as may from time to time seem necessary in the public interest, and as may be determined upon by the Commissioner of Public Safety or his qualified representative. It is therefore recommended that an appropriation be made by the city for such purpose.

An interesting feature of the meeting was the signing of the by-laws of the State Society, the District Branch and the County Society by the members present. The corrected minutes of this meeting will appear in the next number of the ANNALS.

ARTHUR T. LAIRD, *Secretary.*

Medical News

Edited by Arthur J. Bedell, M. D.

THE ALBANY GUILD FOR THE CARE OF THE SICK; STATISTICS FOR SEPTEMBER, 1906.—Number of new cases, 122; *classified as follows*: dispensary patients receiving home care, 5; district cases reported by health physicians, 17; charity cases reported by other physicians, 62; patients of limited means, 38; old cases still under treatment, 70; total number of patients under nursing care during the month, 192. *Classification of diseases* (new cases): medical, 37; surgical, 13; gynaecological, 5; obstetrical work of the Guild, 32 mothers and 30 infants under professional care; dental cases, 3; skin, 2; transferred to hospitals, 7; deaths, 9.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 1; attending obstetricians, 1; medical students in attendance, 3; Guild nurses, 4; patients, 4; visits by head obstetricians, 4; by attending obstetricians, 1; by the medical students, 39; by the Guild nurses, 49; total number of visits in this department, 93.

Visits of Guild Nurses (all departments): Number of visits with nursing treatment, 1,333; for professional supervision of convalescents, 223; total number of visits, 1,556; six graduate nurses and 3 assistant nurses were on duty. Cases were reported to the Guild by 2 of the health physicians and by 43 other physicians and by 4 dentists.

REPORT OF THE ALBANY GUILD FOR THE CARE OF THE SICK, FROM APRIL 1, 1906, TO OCTOBER 1, 1906.—Number of cases on hand April 1, 1906, 52; number of cases reported by City Health Physicians, 77; number of cases reported by other physicians, 609; total new cases, 686; total number cases under Guild care for the six months, 738.

Classification of Cases.—Dispensary, 14; district, 70; other charity cases, 313; total charity cases, 397; limited means, 289; total new cases, 686.

Classification of Diseases.—Medical, 185; surgical, 52; gynaecological, 20; obstetrical—general work of Guild, mothers 188, infants 183, total 371; special obstetrical department, mothers 20, infants 20, total 40; total obstetrical cases, 411; dental, 9; eye and ear, 1; skin, 6; throat and nose, 2; grand total, 686. Contagious diseases in above list, 31; removed to hospitals, 20; died, 45. Number of nurses employed: graduate nurses, 6;

assistant nurses, 5; emergency nurses, 2; total, 13. Number of physicians reporting cases to Guild, 84. Number of visits made by Guild nurses, 8,354.

ALBANY MEDICAL COLLEGE ALUMNI ASSOCIATION OF NEW ENGLAND.—The annual meeting of the Albany Medical College Alumni Association of New England was held at Springfield, Mass., Tuesday, October 9, 1906. Dr. A. E. Abrams gave the President's address. Dr. James Vander Veer delivered an address on "A Comparison of the Educational Methods between New York State and Germany." The meeting was well attended and much enthusiasm was shown.

SCHOOL OF PHARMACY.—The School of Pharmacy opened October 1st very auspiciously. Dr. Tucker, Dean of the College, presided and addresses were made by Dr. A. V. V. Raymond, Chancellor of the University, and Secretary Bradley. The registration is larger than last year.

ALBANY CITY HOMEOPATHIC HOSPITAL.—The corner stone of the new Homeopathic Hospital was laid September 29th.

PERSONALS.—DR. LELAND D. FOSBURY (A. M. C., '04) has opened his office at Endicott, N. Y.

—DR. JAMES W. WHITE (A. M. C., '05) has sold his practice at Rural Grove, N. Y., and is now taking post-graduate work at New York city.

—DR. CHARLES SWEET (A. M. C., '05) has opened an office at Poughkeepsie, N. Y.

—DR. ROSCÖE C. WATERBURY (A. M. C., '05) has opened an office at Kinderhook, N. Y.

—DR. ARTHUR H. SCHUYLER (A. M. C., '05) has started practice at Rochester, N. Y.

—DR. CLARENCE T. SICARD (A. M. C., '01) has opened his office at No. 802 Albany street, Schenectady, N. Y.

—DR. EUGENE E. HINMAN (A. M. C., '99), No. 202 Lark street, Albany, N. Y., announces that after October 1st his practice is to be limited to diseases of the nose and throat.

In Memoriam

HENRY E. BABCOCK, M. D.

Dr. Henry E. Babcock, of the class of 1855, died at his home in New London, N. Y., on September 20, 1906. Dr. Babcock began practice in Clarksville, N. Y., afterward moving to Wayne county. After eight years he moved to New London, where he spent the remainder of his life, continuing in active practice until 1902. Since then he has been in poor health.

CHARLES G. BACON, M. D.

Dr. Charles G. Bacon, of the class of 1874 of the Albany Medical College, died at his home in Fulton, N. Y., August 18, 1906, aged ninety-two. Dr. Bacon attended lectures in the Albany Medical College in 1841, and in the College of Physicians and Surgeons in 1848. In 1858 he received the degree of doctor of medicine from the Regents of the University, and again in 1874 from the Albany Medical College. He always practiced at Fulton. He was a member of the Medical Society of the County of Oswego, and in 1854 a delegate to the American Medical Association. In 1843 he was hospital brigade surgeon for the Forty-eighth Brigade of the Militia of the State of New York, with the rank of major. In 1887 Dr. Bacon was president of the New York Central Medical Society.

WILLIAM A. BLISS, M. D.

After an illness lasting for three years, following twenty-seven years of devotion to professional work, Dr. William A. Bliss died at his residence, No. 385 Tenth street, Brooklyn, August 19, 1906, a victim of cancer. His widow, Mrs. Jennie Jaques Bliss, and a niece, Miss Frances Bliss Merrifield, who is the sole remaining member of his immediate family, survive him. Dr. Bliss's brother, Solon F. Bliss, also a physician, died ten years since, after many years of earnest work in the East New York section of Brooklyn.

Dr. William A. Bliss was born on the 5th of May, 1841, in Nassau, N. Y. His father, John S. Bliss, was a well-to-do and respected farmer; his mother, Polly Hunt Bliss, a sterling figure among the women of the community. In 1847 the household removed to Sandlake, N. Y., and young Bliss received his early education there, at Schramm's Academy. Entering the Albany Medical College in 1863, he was graduated in 1866, soon thereafter married Miss Jennie Jaques, of Albany, and shortly thereafter took up his life work in Brooklyn.

Dr. Bliss found himself confronted almost immediately with the duties and cares of a large practice, but he was unremitting in his devotion to duty. He became a member of the Kings County Medical Society, the only such organization with which he affiliated himself, and was actively interested therein during the entire time of his residence in Brooklyn. Although fitted by research and careful reading for work along special lines, he confined himself to general practice, such was the demand for his services.

In 1893, Dr. Bliss gave up active work and removed to Fishkill-on-Hudson, but after residing there for six years he returned to Brooklyn, but did not, however, enter into active business life again. His health failed in 1903, and he suffered without intermission until the day of his death. His friends declare, however, that even under the most adverse conditions his courage was marvelous, his patience inexhaustible and his cheerfulness undaunted.

FLAVIUS PACKER.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

A Primer of Psychology and Mental Diseases. For Use in Training Schools for Attendants and Nurses and in Medical Classes, and as a Ready Reference for the Practitioner. By C. B. BURR, M. D., Medical Director of Oak Grove Hospital (Flint, Mich.) for Mental and Nervous Diseases; Formerly Medical Superintendent of the Eastern Michigan Asylum; Member of the American Medico-Psychological Association; of the American Medical Association; Foreign Associate Member Societe Medico-Psychologique of Paris, etc. Third Edition. Thoroughly Revised, with Illustrations. Pages viii-183, 12mo. Bound in Extra Vellum Cloth, \$1.25 net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

Dr. Burr's "Primer" has deservedly reached a third edition. The ANNALS has commented favorably upon the book on its first appearance and now emphasizes the necessity of study of its valuable directions for all practicing nurses. The lamentable mismanagement of mental cases might thus to some extent be modified.

The World's Anatomists. Concise Biographies of Anatomic Masters, from 300 B. C. to the Present Time, whose Names have Adorned the Literature of the Medical Profession. By G. W. H. KEMPER, M. D., Professor of the History of Medicine in the Medical College of Indiana, Indianapolis, Ind. Revised and Enlarged from the Original Serial Publication in *The Medical Book News*. With Eleven Illustrations, Nine of which are Portraits. P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia, 1905.

This is a very interesting little book; indeed, we may use the author's term—fascinating. Names familiar to every student of medicine are here explained, and the medical heroes of three centuries are brought into living contact with their admirers of the present. If there be any criticism, it is that the sketches are too concise. Perhaps the author will be encouraged to prepare another enlarged and more elaborate edition.

Gynecology. Volume IV of the Practical Medicine Series for the year 1906. By E. C. DUDLEY and C. VON BACHELLE. Price, \$1.25. The Year Book Publishers, 40 Dearborn Street, Chicago, Ill.

This volume is one of a series of ten issued at about monthly intervals, and covering the entire field of medicine and surgery, each volume being complete for the year prior to its publication on the subject of which it treats. The price of the series of ten volumes is \$10. The series is

published primarily for the general practitioner, at the same time the arrangement in several volumes enables those interested in special subjects to buy only the parts they desire.

In this book of 227 pages, the subject of gynecology is presented in the form of abstracts taken from contributions which have appeared during the past year. While it does not represent a review of the entire literature, it does give a systematically arranged and well indexed review of the contributions which the editors have chosen in order to cover the subject of gynecology. As such a book, it can be recommended to both general practitioners and others interested in gynecology.

J. H. S.

Christianity and Sex Problems. By HUGH NORTHCOTE, M. A. Crown Octavo, 257 pages. Bound in Extra Cloth. Price, \$2.00, net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia, Pa.

Studies in the Psychology of Sex—Erotic Symbolism, the Mechanism of Detunescence, the Psychic State of Pregnancy. By HAVELock ELLIS. 6 $\frac{3}{8}$ x 8 $\frac{7}{8}$ inches. Pages x-285. Extra Cloth, \$2.00, net. Sold only by Subscription to Physicians, Lawyers, and Scientists. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

Of Mr. Northcote's book it may be said that he has quoted liberally from Havelock Ellis' descriptions, and of these that there seems to be no omission of any of the lowest instincts of the human race. Such revolting details are probably interesting to some readers, but can only prove suggestive or helpful to a very small number of men who have the custodial supervision of certain low types of individuals.

The Diseases of the Nose, Throat and Ear. By CHARLES PREVOST GRAYSON, A. M., M. D., Lecturer on Laryngology and Rhinology in the Medical Department of the University of Pennsylvania; Physician-in-charge of the Department for Diseases of the Nose and Throat in the Hospital of the University of Pennsylvania; Laryngologist and Otologist to the Philadelphia Hospital. Illustrated with 129 Engravings and 8 Plates in Colors and Monochrome. Lea Brothers & Co., Philadelphia and New York.

There appears to be no end to new books on the nose and throat, but there is always room for a good book. The author has very wisely included the diseases of the ear, because anatomically and pathologically, its association with the nose and upper part of the throat is very intimate. The dependence of the large majority of diseases of the ear upon some disease of the nose or naso-pharynx, is now universally admitted, and as the author states, it is the rhinologist who holds the key to the prophylaxis of the ear. The different diseases of the nose, throat and ear are

very thoroughly considered, and an excellent medical formulary is added to the book. One of the best features of this book is the omission of a great number of different methods of treating the different diseases, only the methods of treatment (usually one) that the author has found to be the best being given. Taking it all together, it is one of the best books we have recently seen.

C. F. T.

A Manual of Otology. By GORHAM BACON, A. B., M. D., Professor of Otology in the College of Physicians and Surgeons, Columbia University, New York; Aural Surgeon, New York Eye and Ear Infirmary. With an Introductory Chapter by CLARENCE JOHN BLAKE, M. D., Professor of Otology in Harvard University. Fourth Edition, Revised and Enlarged. With 134 Illustrations and 11 Plates. Lea Brothers & Co., New York and Philadelphia, 1906.

This manual by a well known specialist, is a particularly good book for students, because it is concise, all unnecessary detail being omitted.

Mention should be made of the introductory chapter by Dr. Blake. He mentions the danger of short courses in otology, as in other departments, which can in a little time afford only a little knowledge, and enable the superficial student to assume that he has acquired an ability in special practice which could only be obtained through long and serious study.

Dr. Bacon, in the chapter devoted to the methods of examining the ear, makes a difficult subject comparatively simple, by the extremely lucid explanations of the various tuning fork tests. He also emphasizes the necessity of a thorough examination of the nose, naso-pharynx and pharynx, before making the diagnosis of the ear condition.

The book is certainly one of the best of the smaller works on otology.

C. F. T.

SURGERY

Edited by Albert Vander Veer, M. D., and Arthur W. Elting, M. D.

Gastroenterostomy or Resection in Ulcer of the Stomach? (Gastroenterostomie oder Resection bei Ulcus callosum ventriculi?)

ALEXANDER BRENNER. *Archiv für klinische Chirurgie, Band 78, Heft 3.*

In 1892 the writer expressed the belief that restriction of ulcer of the stomach was a more desirable procedure in ulcers of the anterior wall or in those in which there was involvement of the pancreas, while gastroenterostomy was indicated in ulcer of the lesser curvature and the pylorus in which there was no adhesion to the pancreas.

The question of the healing of an ulcer after gastroenterostomy has been much discussed and it has been generally regarded that the healing in most instances took place fairly promptly, although there has been relatively little positive proof. Some authors, however, have disputed this and state that there was simply mechanical relief of the condition without a positive healing.

In three instances in which the writer had performed gastroenterostomy for relief of an ulcer of the stomach he had occasion at subsequent periods to open the abdomen and to study the conditions which presented.

In the first case the second operation was done two years and nine months after the first, and every vestige of the previous ulcer had disappeared and the patient has since remained in perfect health.

In the second case one year and six months elapsed between the two operations, and in this instance also all evidence of the ulcer had disappeared.

In the third case the second operation was performed less than a year after the first, and yet a complete healing of the ulcer was demonstrated.

Many observers have reported recurrence of ulceration after resection of the ulcer without gastroenterostomy. The writer has collected 21 cases in which he has resected the ulcer, with a mortality of 28.6 per cent.; and 30 cases, in which gastroenterostomy was done for the ulcer, with a mortality of 15.3 per cent. A comparison of these two groups of cases shows that a permanent cure resulted in 66.6 per cent. of the cases in which the ulcer was resected, with a mortality of 28.6 per cent.; while in the cases in which gastroenterostomy was done there was a permanent cure of 63.68 per cent., with a mortality of 15.3 per cent.; all of which would seem to demonstrate the fact that gastroenterostomy is to be preferred to resection.

At the international congress in Brussels in 1905, most of the surgeons present expressed the view that gastroenterostomy is the operation of choice for ulcer of the stomach.

Concerning Extirpation of the Thymus in Asthma Thymicum. (Ueber Thymusextirpation bei Asthma thymicum.)

O. EHRHARDT. *Archiv für klinische Chirurgie*, Band 78, Heft 3.

The views in regard to the relationship of the hyperplasia of the thymus to this condition may be divided into two groups. First, those who regard the symptoms as due to the mechanical pressure of the enlarged thymus upon the organs of the anterior mediastinum; and, secondly, those who regard the enlargement of the gland as the expression of a lymphatic constitution and so only indirectly the cause of the asthma.

Surgery of the thymus is practically new territory, not so much because of the difficulties of operation as because of the difficulty of diagnosing an enlargement of this gland. The first operation of the kind was performed by Rehn and reported in 1896. The patient was a child of 2½ years who for four weeks had had pronounced dyspnoea with repeated attacks of suffocation. Tracheotomy, which was done at first, gave relief only when the tube reached the bifurcation. When the suprasternal space was opened an enlarged thymus was found, which was drawn upward and fastened to the fascia above the sternum. This gave relief from the symptoms which was permanent.

Shortly after this Fritz Koenig operated upon a nine weeks' old child in which he found a markedly enlarged thymus, part of which was excised, and the rest was fastened to the fascia above the sternum by suture. This case also made a permanent recovery.

The writer reports the case of a child two years old who for some time before operation had presented hoarseness and difficult breathing, which increased in severity until it presented attacks of suffocation occurring several times every day. On physical examination the child presented a marked cyanosis. There was a pronounced inspiratory stridor with inspiratory depression in the epigastrium and suprasternal notch. Physical examination was otherwise negative. It was impossible to demonstrate any enlargement of the thymus.

The operation consisted in a median incision just above the manubrium and when the suprasternal notch was freely opened a portion of the thymus presented at every inspiration. The thymus was seized, gradually withdrawn and enucleated, without much difficulty. Examination of the trachea after removal of the thymus showed it to be flattened in its anterior-posterior diameter. The thymus removed was five centimeters long, four centimeters broad and two centimeters in thickness, and was of very firm consistence. Microscopically it presented the picture of normal thymus tissue. The child made a rapid recovery and has remained well since.

Animal experimentation has shown that the removal of the thymus does not in any way impair the nutrition. The flattening of the trachea which may be associated with this condition is of considerable importance and may at times require plastic operation. The writer states that the gland can be readily removed through the suprasternal notch with but little danger of wounding the larger vessels and with little difficulty in controlling the hemorrhage. He states that it will rarely ever be possible to make a diagnosis of enlarged thymus before operation.

In the case of Rehn the absence of relief after tracheotomy with the usual tracheal tube, and in the writer's case the absence of relief after intubation, demonstrated that the obstruction must be shortly above the bifurcation. The only conditions which can produce such an obstruction, practically speaking, are malignant tumor or an enlarged thymus. Mediastinal tumors in children are extremely rare; and leukemic or pseudo-leukemic enlargements of the lymphatic glands are also extremely rare in children.

He regards the operation as certainly indicated in cases where there is a strong suspicion of an enlarged thymus.

A Case of the Severest General Infection Associated with Cholangitis; Operation; Recovery. (Fall von schwerster Allgemeininfektion bei Cholangitis; Operation; Recovery.)

ADOLPH. *Mittlungen aus den Grenzgebieten der Medizin und Chirurgie, Band 15; Heft 3 and 4.*

The following case the writer regarded as worthy of especial mention, because it illustrates one of the rare complications of gall bladder disease.

Patient was a woman of 49 years, who had for a number of years suffered with occasional attacks of pain of short duration in the upper region of the abdomen, which had been regarded as cramps of the stomach. There had never been any jaundice. There was no history of any other disease.

Present illness began with a sudden pain in the region of the liver and upon physical examination there was found to be marked tenderness just below the border of the right ribs. No distinct tumor mass could, however, be felt. The disease ran a very severe course from the onset, characterized by frequent severe chills, with marked elevation of temperature. At first there were only one or two chills a day, but subsequently she would have as many as four or more. The skin was a dirty grayish yellow color and there existed a diarrhœa. The picture was one fairly typical of septicemia.

The patient was seen in consultation at the end of a week by a prominent internist, who regarded an operation as not indicated. About two weeks after the onset she was seen by Prof. Rehn, who made a diagnosis of a suppurative inflammation of the gall bladder or gall passages and probably of the liver, and advised an operation.

At the operation there was no stone or sediment found in the gall bladder. The bile was of apparently normal character, as was the gall bladder and the bile passages. There were no adhesions. Drainage of the gall bladder was instituted. The patient stood the operation fairly well, but had considerable fever of an irregular character for the following two weeks, after which it gradually became reduced and she made a satisfactory recovery and has remained permanently well. Cultures from the bile showed only the colon bacillus.

It would appear that in addition to the liver infection there must have been some other etiological element, but no positive proof of this could be adduced. On one occasion prior to the operation the writer thought that he found some very small gall stones in the feces, but admits that he may have been mistaken. It would appear, therefore, that this was a case of infectious cholangitis without stone. It is hardly probable that stones were present and that all of them should escape spontaneously, for this occurs only very rarely.

Riedel believes that an acute cholecystitis without stone is not of especially infrequent occurrence, although the cases are rarely ever seen by surgeons. Reidel has reported a case of a boy of nine years who presented what appeared to be the symptoms of acute appendicitis, but at operation there was found a tremendously distended gall bladder, which did not present any very definite evidence of disease other than the presence of large numbers of colon bacilli in the bile. This patient made a satisfactory recovery without drainage of the gall bladder.

The writer enters into a discussion as to whether or not the operation in his case was of any particular value, and believes that it certainly was, inasmuch as it favored a free drainage of the bile passages and in this way relieved in a measure the cholangitis. He has not been able to find a case exactly like his own in the literature, although there are numerous cases where jaundice and biliary colic have occurred without the presence at the time of operation of any stone.

OPHTHALMOLOGY

Edited by Charles M. Culver, M. D.

*Concerning Irritation Caused by the Use of Atropin.*SYM. *The Ophthalmoscope (London)*, 1 April, 1905.

The continued use of atropin, as a mydriatic, sometimes causes the practitioner much trouble by producing acute inflammation of the skin and conjunctiva. This is a real idiosyncrasy and not caused by a septic condition of the solution of atropin; the author has not found it advantageous, in such cases, as regards the dermatitis, to change the mydriatic. A recent case is quoted, of iridocyclitis, with a tendency to synechiae, with deposits on Descemet's membrane, in which, consequently, mydriasis was most urgently desired; in which the dermatitis in question was caused by the use of atropin; it became so severe that the use of this alkaloid needed to be discontinued. When a relapse occurred, a resumption of the use of atropin resulted in a renewal of the conjunctivitis. The alkaloid was then used in oily solution, without causing the inflammation of skin or conjunctiva. This freedom from irritation existed during several weeks' use of the oily solution. The solvent was pure olive oil, which was boiled and atropin was added while the oil was cooling. Scrinii, of Paris, praises this oleaginous solution, but does not report having derived benefit, of the kind in question, from its use. In the actual inflammation, ichthyol gives the best results.

Adrenalin in the Treatment of Glaucoma. (Comment faut-il employer l'adrenaline pour guérir le glaucome sans operation?)

GRANDCLEMENT, (Lyons). *La Clinique Ophthalmologique*, No. 12, 1904.

This author holds adrenalin to be capable of the cure of glaucoma, whether primary or secondary.

Four conditions are necessary to success.

1. The disease must be recent; not of long enough standing to have produced lesions of the ciliary body, iris or in the angles of the anterior chamber.

2. The adrenalin must be instilled into the eye at intervals of half an hour, without any interruption at all, for about three days, when the tension will have been reduced.

3. Eserin must be used, at the same time, to combat two of the processes that attend glaucoma; the hypersecretion of aqueous humor, by the congested ciliary body and the plugging of the angles of the anterior chamber by the dilatation of the pupil.

4. The use of the remedy must be discontinued as soon as the tension has reached the normal, since its overuse tends to produce atheroma of the larger vessels.

ALBANY MEDICAL ANNALS

Original Communications

PRESIDENTS' ADDRESS.

Delivered at the Annual Meeting of the Albany Medical College Alumni Association of New England, held at Springfield, Mass., October 9, 1906.

BY ALVA E. ABRAMS, M. D.,

Hartford, Conn.

Friends and Members of the Albany Medical College Alumni Association of New England:—We have convened to-day to celebrate our eighth anniversary, to make new friendships and revive old ones, to compare our trials and successes and consider the welfare of the old "Homestead" we all honor, the Albany Medical College.

She has always kept in the front rank of advancing medical science but never before has she been so well equipped to offer advanced scientific teaching and splendid clinical advantages to her students as to-day. Where can you find another school in the United States that offers a greater diversity of patients practically under one roof, and such fine laboratory facilities in proportion to her size, for those who desire to pursue special lines of study and investigation? It makes some of us older graduates feel, as we look back on our own student days, that we desire to be "born again" and pass along the new and better way. But we have a great duty yet to perform and we are false to our Alma Mater if we do not enter into her spirit of progress and keep ourselves in touch with her progressive teachings. In the true analysis any college is estimated by the teachers she develops and the students she sends forth. The buildings and all paraphernalia are but instruments in the artisan's hand.

The laity in any particular community will judge the Albany Medical College by the physician she sends to that place and his responsibility for that special part of her reputation is as great and as sacred as his honor unto father and mother. I believe the time will come when every progressive medical school will look more carefully after the welfare and advancement of her post-graduates and provide such attractive courses of post-graduate studies and clinical opportunities that many will accept the chance to keep apace with the rapid advance in our art.

To-day there seems to be two great impediments in the way of this most desirable reform: first, the indifferent attitude of a large number of the Alumni toward our association meetings and the college in general. We have all sinned in this respect and many of us are "no longer worthy to be called sons." As was well said at the last General Alumni Meeting in Albany "we have expected the college to do all for us," and we throw all the burden on our hard working professors, while we passively wait with open mouths to have the good things dropped in by other hands. How often have we drugged our consciences with the excuse that "we are too busy to break away for a day" and get a spark of new interest to cheer us on in our strenuous existence. When the sons of our Alma Mater take a general interest in progressive medicine and are wise enough to spend a few weeks or months, now and then, in post-graduate studies, the way will be provided in our home college, and many a community will be blessed with a wiser and more enthusiastic family physician.

During the last ten years many mediocre physicians and surgeons have lifted themselves to first places in their respective communities by devoting a liberal vacation period to special work in our medical centers. Viewed from the commercial standpoint only, which is the least honorable, it probably paid better than any other investments they ever made, but the extra amount of human suffering relieved cannot be estimated in dollars, while added respect and honor from their patients made life seem worth living and "living more abundantly."

We all get discouraged. Everything ahead looks like slavery and endless care and toil. We are ready to desert our profession. All other lives about seem easier and more hopeful than ours. When we get into this "slough of despond" we need rest and a draught from some new fountain of inspiration. "Let

us therefore lay aside every weight" and the sins of omission and indifference "which so easily beset us," and run with patience and highest self-respect the race that is set before us.

The second great obstacle to adequate opportunities for post-graduate studies is the lack of money. We are living in the most prosperous period our country has ever known. Money flows freely into a thousand channels of industry and amusement. We no longer reckon by thousands or tens of thousands but by millions. Yet amid all this flood of prosperity medical science and investigation have never received the honest portion to which they are entitled. Yet the fault is not so much with the holders of wealth as we commonly think. If half the organized effort were made to raise money for the advancement of medical science that is made to acquire it for missionary purposes and many another good object, we should have sufficient funds to bring to our schools large numbers of the greatest teachers and investigators from all parts of the world.

As illustrating, in a small way, what can be accomplished allow me to refer to the Hartford Medical Society. When I first knew that organization twenty-three years ago it had a handful of good earnest workers who met, from time to time, at the homes of the various members. Later a hall was hired as a regular meeting place and a rule was made that papers should be especially prepared for each meeting. Little by little we began to realize that to give character to our society and to offer stronger inducements to the physicians all about us to become members we needed a building of our own large enough to hold our growing library and accommodate our meetings. Through the influence of one or two of our active members, who had the welfare of the society always at heart, we received an endowment of \$20,000 for a home. Yet we had no place to put our building, but enthusiasm was growing and ere long we had, from our own members, nearly \$10,000 wherewith to purchase a suitable lot, near the center of the city. With a fine building well equipped we still felt that our ideal was not fully realized and we began reaching out for contributions and endowments that would create a sufficient fund to carry on some scientific work and attract to us, from time to time, leading men from various medical centers. To-day we have on hand, or assured, about \$105,000, and the end is not yet. While not a dollar of this has so far been expended directly for the benefit of the

society we are a more earnest and progressive body, for the very same reason that any business man works harder and with better heart when he sees success crowning his efforts.

As physicians we have been too diffident in claiming our share of the general prosperity. In many sections of the country the fees for medical services are little or no better than before the civil war, notwithstanding the great increase in wages for all classes of artisans and a very marked increase of the average amount of money, per capita, in the United States during the past ten years.

In an address delivered before the State Medical Society, of Nebraska, in May of this year (1906) Dr. W. O. Bridges, of Omaha, made some statements that will bear repeating in this connection. He says:

“Looking over the subject of physicians' fees in the past twenty-five years, one is impressed with the fact that the charges made by men in country practice have not advanced one cent, whereas the classes of people whom he serves have doubled, trebled and even quadrupled their incomes. Twenty-five years ago the outlay for the physician's medical education in time required and money expended was less than one-half the present cost and in consequence thereof the value of service which he gives to-day as compared with the former period can not even be measured in dollars and cents. The charge of fifty cents for an office prescription may be all the prescription is worth many times, for, if it is the prescription which the fee is made for, the patient is not getting more than his money's worth. Too often is this impression given to patients or too seldom are they led to understand that the prescription is only an end result of an examination which requires technical knowledge and experienced judgment. A fifty cent fee is too apt to mean a fifty cent service. This is no reflection on the doctor, whatever, for human nature is the same everywhere, and so long as it is the custom for our services to be measured in money value the reverse in most instances will apply, the value in money determines the service. To state an opposite hypothesis may make this statement seem less critical. Suppose the fee charged for office consultation were arbitrarily fixed at five dollars, is there a single physician in this state who would be content simply to ask a few questions, look at the tongue, determine the absence of fever, by the hand contact, turn around and

write a prescription? What applies to a fifty cent office fee applies also to a dollar visit in town, a mileage of fifty cents without a visit fee in the country and a twenty-four to forty-eight hour obstetric fee of ten dollars.

"The low-fee proposition has two principal bad results for the physician. By the undervaluation of his own service, his confidence in himself in time suffers, his work becomes superficial and he ceases to develop, and, failing to earn a competency during the active years of his professional life, he too frequently goes into his old age without the necessities of life or is dependent on relatives for support. On the other hand, fees proportionate to good service mean much to the doctor. The stimulus to be thorough and painstaking, to think and to study over his cases, to relieve him of the necessity of outside financial interests, means much for his professional advancement, for the increased revenue and his inclination lead him to seek the change and advantages offered by the post-graduate schools and by the hospitals of nearby cities. He also feels better able to afford the time and pleasure of the county, state and national societies more frequently.

"There is no community which would not be greatly benefited by an increased income to all the members of the profession in their midst. Suppose, for example, that each physician in a town having six physicians should devote from three to six months every six years to post-graduate hospital work, what effect would this have on the value of his service and who else would profit by it? Does a physician ever go to a county, state or other medical society meeting without receiving some new suggestion or having awakened some new thought? If he goes to Chicago, New York, Philadelphia, or Baltimore for a month in contact with other medical men, does he not return with renewed determination to get out of a rut and stay out? If he can figure that his professional income will admit of his doing this, and that by so doing he will gain vantage ground, and by the very move still further increase his income, is he not standing in his own light not to do it? Farther than this, does not his duty to his patrons and his influence in the community require him to do it? And if so, should they not pay for it in fees which will permit of a little more than a comfortable living? When I have talked with some of my professional friends about this subject, the reply has been 'The fees in our community have

been fixed so long that our patrons would rebel at any increase, and, furthermore, there would be lack of uniformity in competing towns and we might sacrifice our business.' To the first suggestion I would offer a protest. From what I have written above as to the character of the service, it is assumed that the farmer or the tradesman is willing to pay for what he buys, if he is made to see that what he buys is worth the money, he pays. That he is not averse to doing so can be demonstrated time and time again, when he is seen to pay railroad fare in addition to a good-sized consultation fee to some city doctor, who may be no better or perhaps not so good as his own physician."

Every word I quote from the Doctor's address is true as gospel, and yet from my own observation and inquiry during the past summer over a portion of the western states and Canada I believe our western physician especially in the country towns, gets better fees and collections are easier, than the average county practitioner in the east. For example, a physician practicing in a small town in Alberta, Canada, several hundred miles from any city, told me that he collected twenty-five dollars each for nearly all his obstetric cases which is considerably more than is usually paid here in the east, in village or country practice, or even for a great share of cases in the medium sized cities, yet this young man did not, in many instances, get anything like just remuneration for his time, hard work and anxiety involved. But as Doctor Bridges has said, if we expect proper fees we must give adequate return for money expended.

A lady recently came to my office who had spent the summer in one of our Northern States. She was suffering from ovarian disease and when I asked why she had not received any treatment during her summer outing she replied that she had called on six different physicians during that time and not one of them had an office, or a pair of hands, that looked clean enough to justify her in allowing a vaginal examination to be made. Another patient, while rusticated in a town in the White Mountains, was seized with a severe attack of biliary colic. The physician who was called proceeded to administer a hypodermic injection made from non-sterile water, without even washing his hands or in any way cleansing the patient's skin. To all of this she very wisely and firmly took exception, and refused to have treatment. What reasonable excuse can be offered for such

mal-practice in this enlightened twentieth century? It would be interesting to know how many obstetric cases in the care of this man died from so-called "taking cold" a few days after delivery; yet these doctors were all regular graduates in medicine but every one casting discredit on the college from which he graduated and on the profession in general, not because his teachers had neglected their duty, but because he had grown indifferent and proven a traitor to his Alma Mater. If such men get small fees, or none at all, who shall say that they are not paid all their services are worth?

Every successful business man puts a certain portion of his annual profits back into his business in the way of better equipment and enlarged facilities, but we as medical men seem too often to overlook this fundamental principle of success, and expect the business ends of our affairs to run themselves. We have sometimes, I fear, allowed our hard earned dollars to slip away in poor investments, when had they been invested in up-to-date appliances and methods in our practice the returns would show a larger per cent or profit than any gold mine we ever purchased stock in. I honestly believe if we, every sabbatical year, threw away all of our out-of-date instruments and books and after six months of serious post-graduate study, took a fresh start among our patients in an attractive office we should have larger incomes and greatly increased confidence from the intelligent patrons of our community. We cannot expect our patients to pay their bills cheerfully, unless they feel that it is "for value received."

Let us live nearer to the measure of our opportunities, demand fair pay for good service and endeavor to show to the public in general the great need of endowments all along the lines of medical teaching and investigation. We shall not appeal in vain and in the latter days of our lives we shall hear many voices saying, "Well done, good and faithful servant."

HYPEREMIA IN THE TREATMENT OF ACUTE INFECTIONS.

BY ARTHUR W. ELTING, M. D.,

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Albany, N. Y.

As a result of modern study and investigation the views held regarding the malignity of many of nature's processes have been greatly modified, and in no phase of disease is this more strikingly exemplified than in the processes of inflammation. Once regarded as a most unfavorable process, we have now come to look upon it as nature's most powerful agent to protect the tissues from the ravages of bacteria and their toxins. Were it not for the phenomena of inflammation the most trivial of infections would speedily prove fatal and animal life would in a short time become extinct. Of all the phenomena associated with inflammation, perhaps the most constant and striking is hyperemia, which may be said to be nature's greatest therapeutic agent. The recognition of hyperemia as an important factor in the cure of infections is not of recent date, for the ancients in medicine were well aware of its value and in more or less crude manner employed it. The credit for the development of hyperemia as a logical method of treatment of infections belongs to Professor Bier of Bonn, who for the past fifteen years has made constant use of the method in his clinic, and who has developed and refined the mode of its employment, until to-day it is within the reach of every intelligent physician.

Hyperemia simply seeks to accentuate nature's methods of combating noxious substances which may have gained entrance into the organism. Antiphlogistic methods of treatment of acute inflammations are in general to be condemned, because they actively counteract nature's beneficent efforts in behalf of the diseased tissue. Two varieties of hyperemia must be distinguished, the active and the passive. In a general way the former may be said to be arterial and the latter venous, although to this rule there are exceptions, as in chronic passive congestion of the lungs resulting from heart disease, in which instance the passive hyperemia is arterial in character. Between the blood of active hyperemia and that of passive hyperemia there are important physical and chemical differences; the former containing much free oxygen and but little carbonic acid and alkali,

while the latter presents exactly the opposite character. Furthermore, the fluid and formed elements are kept in active motion in the blood stream in active hyperemia, while in passive hyperemia they are both allowed to escape more or less into the tissues.

Active hyperemia can be produced in a great variety of ways—mechanically, chemically and physically. Much of the benefit derived from massage and manipulation is due to the hyperemia induced. The same may be said to be true to even a greater degree of chemicals as applied in the form of blisters, etc. The most universally employed of all measures to induce active hyperemia is warmth, the effect of which is to increase the rapidity of the circulation and the amount of blood brought to the part. Bier has shown conclusively that of all forms of heat, hot air is the most efficacious in the production of hyperemia, and to Bier belongs the credit for the invention of the modern hot air method of treatment. It has been conclusively proven that the exposure of a portion of the surface of the body to hot air produces an hyperemia of the deep as well as the superficial tissues.

The methods for the production of passive hyperemia are by no means as numerous as those employed for the production of active hyperemia. One of the oldest, if not the oldest, method of producing passive hyperemia is the application of cold. The old idea that cold possessed an antiphlogistic action must be abandoned, for there is no longer any doubt that the ice bag is a very effective means of inducing passive hyperemia, and this hyperemia extends deeply into the tissues. Ambroise Paré appears to have employed passive hyperemia in the treatment of ununited fractures and in cases in which the production of callus was unsatisfactory. His ideas were apparently forgotten until Nicoladoni revived them in 1875 and strongly advocated passive hyperemia as a valuable method of treatment for ununited fractures. Since that time numerous observers have confirmed the correctness of his conclusions. The method employed by Nicoladoni for the production of passive hyperemia was practically the method employed to-day, namely: constriction by means of an elastic band. Hyperemia of a passive character can also be produced by means of a variety of suction apparatuses. One variety employed for small local infections, such as boils, resembles a small glass breast pump; a small bell-shaped glass, to the apex of which a rubber tube is attached, being applied immediately

over the area where hyperemia is desired and the air exhausted by a rubber suction pump, after which the rubber tube is clamped, the suction pump disconnected, and the glass left in place as long as desired. Similar apparatus in larger size has been devised for inducing hyperemia of joints. The joint is enclosed in an air-tight glass compartment and the air withdrawn by means of the suction pump until more or less of a vacuum is produced. In this way varying degrees of passive hyperemia can be secured.

All investigators are agreed that passive hyperemia increases the quantity of lymph in the part as well as the rapidity of its flow. In passive hyperemia, however, which is produced by an elastic band, this flow of lymph is naturally interfered with, because the delicate walls of the lymph vessels are even more readily constricted by the pressure than are the walls of the veins. The oedema associated with passive hyperemia artificially induced is in large part due to the lymph stasis.

One of the most striking effects of both active and passive hyperemia is the lessening of pain. This phenomenon is probably due to a lessening of the sensitiveness of the nerve endings which Ritter believes is the result of the infiltration of the tissues with serum in much the same way that artificial infiltration by Schleich's method produces anaesthesia. The view that pain associated with inflammation is due to hyperemia must be abandoned, the probable cause of this pain being some disturbance of the nerve endings by the noxious substances in the tissues. The soothing action of heat or counter-irritants is undoubtedly due to the hyperemia induced. This pain-lessening property of hyperemia is of importance not only from the subjective standpoint of the patient, but also from the fact that it allows more vigorous active and passive motion of inflamed tendons and joints, and thereby materially lessens the likelihood of contractures and faulty positions.

Another most important property of hyperemia is its bactericidal action. This has been clearly demonstrated experimentally by Nötzel, who inoculated portions of the bodies of rabbits rendered passively hyperemic with lethal doses of bacteria, and found that in fifty-one of sixty-seven such experiments the animals recovered, while all the control animals died.

Laqueur has demonstrated that the serum from tissues passively hyperemic possesses a bactericidal power distinctly greater than that of serum from a non-hyperemic part of the same indi-

vidual. Wessely has also shown that the anti-bodies are produced more actively in passively hyperemic tissues than in normal tissues. Buchner and others believe that a large part of this bactericidal property is due to an increase of the leucocytes in the hyperemic area, and that to these leucocytes rather than to the blood serum the destruction of bacteria and toxins is due. Hamburger is of the opinion that the increased content of carbonic acid in the passively hyperemic tissue is largely responsible for the bactericidal action. He has demonstrated that the lymph in passively hyperemic tissue is also distinctly more bactericidal than the lymph from other parts of the same body, and since the bacteria occupy chiefly the lymph spaces the therapeutic effect of passive hyperemia would be the natural sequence.

The absorptive property of active hyperemia can be readily enough demonstrated by exposing an oedematous leg to hot air, when after a short time a more or less marked diminution of the oedema will be noted. Absorption of fluids seems to occur chiefly through the blood capillaries and not through the lymph vessels, as was once supposed. Absorption of formed particles, on the other hand, occurs almost exclusively through the lymph channels. Klapp has shown that in passive hyperemia the absorption is delayed while the elastic band is in place, but is increased after the band is removed, and so much is the rapidity of absorption increased that the sum total of the effect of passive hyperemia can be said to be a decided increase of absorption.

The solvent property, especially of active hyperemia, is another of its well recognized features. As a result of this action, blood clot, joint accumulations, fibrin, etc., are more or less dissolved and rendered capable of being absorbed. In the course of acute inflammatory processes, so-called autolysis or autodigestion is observed and is usually regarded as the result of the action of ferment supposed to be derived mainly from the leucocytes. It is to be presumed, however, that the inflammatory hyperemia is the most important factor in this autolysis. It is a matter of frequent observation that scars become softened and elastic under the influence of hyperemia. The exact cause or causes of this solvent property of hyperemia have not as yet been definitely determined, for hyperemia is most certainly a complex association of physical and chemical phenomena.

It has long been recognized that hyperemia possesses a pronounced nutritive action, and Paget many years ago emphasized

the important relationship of the hyperemia resulting from a venous thrombosis to an increase in the volume of the involved area. Many observers have claimed that this increase in size was due to an hypertrophy of the muscles, but it seems rather more probable that this apparent hypertrophy may be simply a forerunner of a subsequent muscular degeneration. It is, however, definitely proven that a passive hyperemia promotes the activity of growth of the skin, hair and nails. There is no evidence that hyperemia causes any hyperplasia of secreting glandular epithelium, but on the other hand it would appear, in some instances at least, to cause an atrophy of the cells. For many years surgeons have recognized the fact that prolonged hyperemia during the period of growth had a decided tendency to cause an increase in the dimensions of the bones of the hyperemic part decidedly greater than would occur in a normal growing part. The clubbed fingers of cardiac and pulmonary disease are in all probability the result of a long continued passive hyperemia. While the evidences of the hypertrophic influence of passive hyperemia are most abundant, those demonstrating a similar influence of active hyperemia are relatively few. Roux has expressed the belief that only those tissues or organs with a passive function, and never those with an active function, are capable of hypertrophy as a result of increased nourishment. That hyperemia promotes regeneration of tissue is generally recognized, and no better illustration of this function can be adduced than its effect upon ununited fractures, in which class of cases it has come to be a well recognized mode of treatment.

After a careful study of the relative value of active and passive hyperemia in the treatment of infections, Bier has concluded that passive hyperemia more nearly resembles nature's method of treatment, and from practical experience he has demonstrated it to be more efficacious than active hyperemia. In general it may be said that passive hyperemia is indicated in acute or bacterial infections, while active hyperemia is indicated in chronic, non-bacterial diseases. Bier believes the most important feature of passive hyperemia is the slowing of the circulation and the widening of the stream, which allows a more intimate and prolonged contact of the constituents of the blood with the diseased tissues.

For the past two years the writer has made constant use of

the method of passive hyperemia in the treatment of all forms of acute infections.

This treatment has been made a routine measure in his service at the Albany Hospital, the St. Peter's Hospital, as well as in private practice, and the results have been in every respect most satisfactory. To induce passive hyperemia one applies proximal to the part to be rendered hyperemic a few turns of an elastic band about three inches in width, preferably a very thin Esmarch. To prevent discomfort the rubber bandage is usually applied over one or two turns of some soft bandage. According to the tightness of the rubber band the degree of hyperemia will differ. To secure a satisfactory passive hyperemia the band should not be applied tightly enough to cause discomfort. At first the subcutaneous veins become swollen, the skin somewhat blue, and gradually an oedema develops. The pulse is full and strong—somewhat stronger if anything than before the band was applied. The surface temperature is also gradually increased; in short the local evidences of inflammation should appear to be increased in the hyperemic area. Great care should be taken to see that the hyperemic part is always warm. A cold hyperemia means that the band is too tight. Furthermore, there should never be any pain or paraesthesia in a part properly hyperemic, and to this point especial attention should be given. Whenever either pain or paraesthesia are complained of it is positive proof that the band has been applied too tightly.

In the treatment of acute infections, passive hyperemia is employed as a rule from twenty to twenty-two out of the twenty-four hours, and during the remaining two to four hours the part is kept elevated to lessen the oedema resulting from the hyperemia. It is usually best to apply the elastic band for from eight to ten hours at a time, and after an interval of one or two hours it is reapplied. Only in rare instances is the hyperemia applied for a shorter period in the twenty-four hours, although in localities where the pressure of the band may be uncomfortable or cause irritation, it may be necessary to shorten the period of its application. As the inflammation lessens the period of application of the elastic band should be decreased, but care should be taken not to discontinue its use until recovery is well established. As a rule the lymphangitis and lymphadenitis on the proximal side of the elastic band are favorably influenced, because as the infection is benefited by the hyperemia fewer bacteria and less

toxins are absorbed. The elastic band should not be applied too near the focus of infection and in severe infections the patient should always be kept in bed. The part should be inspected at intervals after the application of the band to determine whether the hyperemia is of the proper degree, and in this resides the chief secret of its successful employment; for if the band is applied too loosely no benefit will result, while if it is applied too tightly distinct harm may be done. The entire treatment should be under the observation of one more or less skilled in the method and should not be left to chance attendants. In acute inflammations of joint or tendon sheaths active and passive motion should be applied as soon as it can be tolerated in order to insure as much of a restoration of function as possible.

Whenever a focus of pus is evident a small incision should be made. With the employment of hyperemia large incisions are as a rule unnecessary, and this is of especial advantage in affections of tendon sheaths, in which a much better function is apt to follow several small incisions than extensive exposure of the tendon. The wounds are rarely drained and never packed with gauze, for such foreign bodies introduced into a wound can only contribute to the extension of the necrosis. The wound is simply covered either with sterile gauze or hot bichloride of mercury packs and irrigated once or twice daily as conditions may demand.

Suppurative processes react differently under the influence of hyperemia. At times the suppuration rapidly ceases, although as a rule it is at first increased. The character of the drainage is usually rapidly modified, the purulent giving place to a distinctly serous discharge. The extension of the necrosis of tissue is decidedly lessened and a separation of the necrotic tissue is hastened.

In many instances the temperature rapidly falls after the application of hyperemia and remains normal thereafter. Coincident with a fall of temperature there is a subsidence of other symptoms. At times the temperature remains normal only during the period of application of the band and again becomes elevated when the band is removed. This is probably due to an increased absorption of toxine after the removal of the band.

Perhaps the most striking results of the employment of passive hyperemia are seen in acute inflammation of the tendon sheaths. Bier states that prior to the introduction of hyperemia in the treatment of this condition, he had never seen a suppura-

tive inflammation of a tendon sheath recover without necrosis and loss of tendon, but that with the hyperemic treatment he now rarely ever sees such a necrosis.

In acute osteomyelitis passive hyperemia has been found to be a very effectual method of treatment. In half of this class of cases in which it has been employed by Bier there has not been any necrosis of bone, and in the cases in which necrosis has occurred it has been of strikingly slight extent.

In the treatment of acute and subacute inflammations of joints, passive hyperemia is of the greatest service and especially in the gonorrhoeal form of infection. Not only is the inflammation rapidly reduced, but the ability to employ active and passive motion early prevents in many instances serious impairment of motion or ankylosis.

Bier has also employed passive hyperemia extensively for the treatment of acute inflammations and acute suppurations about the head and face. This is accomplished by the application of an elastic band around the neck just below the larynx. The effect of the application of hyperemia in the treatment of these conditions is practically the same as observed elsewhere in the body. Bier reports most favorable results from this method of treatment of acute suppurative inflammations of the middle ear with their complications, acute inflammations of the eyes, acute parotitis, lymphadenitis, and all forms of acute suppurative processes.

In conclusion it may be said that passive hyperemia as a method of treatment of acute infections is no longer in the experimental stage; that it is a logical and rational procedure, and that the results obtained from its correct employment demonstrate conclusively that it is the most effective method yet proposed for the management of this class of cases.

REPORT OF CASES TREATED BY A MODIFIED BIER-KLAPP METHOD OF PASSIVE HYPEREMIA.

Read before the Medical Society of the County of Albany, November 7, 1906.

By JAMES N. VANDER VEER, M. D.

Mr. President and Gentlemen:

I wish to present this evening, before the members of the Society, a report of cases treated by the so-called Bier-Klapp method. This method is in reality an improved form of cupping, utilizing our present-day knowledge of bacteriology and pathology as its basis.

The method, of itself, is quite simple, requiring an incision to be made in the majority of cases, and following this, the application of a cupping apparatus. The cups utilized by Professor Bier and his assistant, Dr. Rudolf Klapp, are of various sizes and designs.

In order to give systematic arrangement to the paper, I present it under four heads, as follows:

- (1) Those conditions in which the method of treatment is especially indicated,
- (2) Outline of treatment,
- (3) Reports of cases,
- (4) Display of the apparatus used.

Under the first heading, I would especially call your attention to a condition which the general practitioner is almost daily called upon to treat—a furuncle—simple at first and more complicated as progressive stages are reached.

If we refer to volume 1, 1905 edition of the International Text-book of Surgery, we are enabled to gain quickly a knowledge of the formation of a furuncle. One of the paragraphs reads as follows:

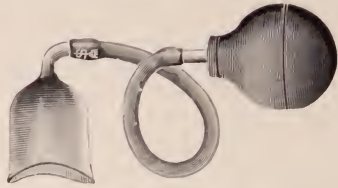
“A boil or furuncle is caused by an invasion of bacteria either through the hair follicle or sudoriparous glands to a deeper portion of the skin or to the subcutaneous cellular tissue. The active growth of the organism is sufficiently extensive in this case to produce a coagulation-necrosis of appreciable size, which subsequently forms the ‘core’ of the boil. The part most frequently destroyed is the hair follicle with its accompanying sebaceous gland. The first appearance of a boil is the appearance of a minute pustule situated at the opening of a hair follicle.

To Illustrate Dr. James N. Vander Veer's Article on "Report of Cases Treated by a Modified Bier-Klapp Method of Passive Hyperemia."

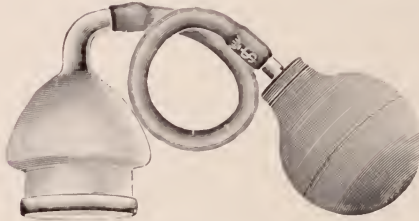
Albany Medical Annals, December, 1906.



No. 112—For Furuncle of the Lips.



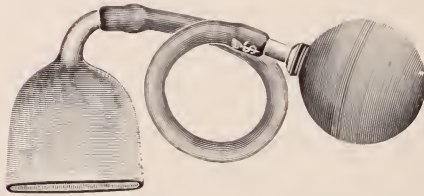
No. 119—For Furuncle of Great Prominence.



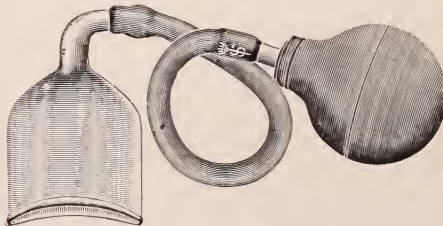
No. 120—For Furuncle of Broad Base.



No. 126—For Furuncle where Curved Rim is necessary.
(Most useful).



No. 126½—For Carbuncle with Multiple Openings.



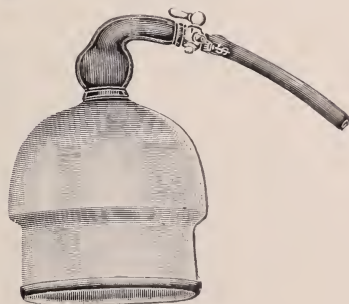
No. 127—For Bubos.

To Illustrate Dr. James N. Vander Veer's Article on "Report of Cases Treated by a Modified Bier-Klapp Method of Passive Hyperemia."

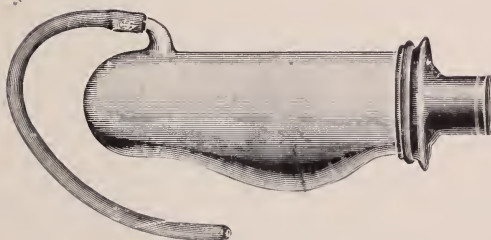
Albany Medical Annals, December, 1906.



No. 130 $\frac{1}{2}$ —For Furuncle of the Back or Trunk.



No. 132—For Large Abscess.



No. 138—For Infection of Finger.
(Most useful).



No. 147—Suction Pump (Medium size).

Its presence is first noticed on account of an itching sensation which it causes. This is soon followed by an infiltration of the skin which finally extends to subcutaneous cellular tissue. A crust forms on the site of the papule, and on removing this *a small quantity of pus escapes*. On introducing a fine probe, it is found to enter to a small depth. This boil continues to enlarge for a day or two, and the opening is now sharply defined and circular, and is sufficiently large to enable the pus to escape freely. Finally, pressure extrudes a small slough and the inflammation begins to subside, the opening contracts and the minute abscess eventually heals by granulation."

And further, "a carbuncle is a suppurative and gangrenous inflammation of the skin and the subcutaneous cellular tissue, and spreads gradually downward and laterally into the subcutaneous tissue."

The formation of the abscess is the carrying of this process but one step further, as we see by referring to Nancrede's Principles of Surgery, 1905:

"In an abscess, the virulent infection ends in the death of the cells of the focus and their conversion into pus, and the intense surrounding hyperemia results in such an outpouring of exudates that the still-living tissues have their nutriment *mechanically* diminished, producing a lowering of vitality, which renders them an easy prey to the multiplying germs.

"The pressure under which pus exists forces into the surrounding tissues toxic substances destructive to the cell, or so lowering their vitality that fresh soil for new crops of microorganisms is prepared.

"Clearly, then, evacuation of the pus will remove only a portion of the germs and their toxic products, but the relief from pressure also effected will prevent the dissemination of bacterial poisons, and will relieve the strangulations of the tissues, which prevents proper nutrition, thus enabling them to cope with the germs left behind.

"Thus, although the germs in the still living tissues; i. e., the chief morbid condition, cannot directly be attacked, the evacuation of the germs contained in the pus and the relief of tension will remove many of their worst effects and enable the tissues to not only protect themselves against further invasion but also to destroy those germs already present."

Again, and secondly, the practitioner is often consulted concerning the small granulating surface of an abrasion, and asked if it is not possible to hurry the process. If he adopts the usual line of treatment there will be recourse to salves, powders and balsams, whereas by aiding the pathological process of repair in such cases (in other words, increasing the blood flow to the part) nutriment in abundance can be furnished to the impaired surface.

In a third class of cases, we are asked to prescribe for an acute infection before it has reached the stage of abscess, and yet where we note a violent systemic reaction. Did we yield to our teaching of earlier days, our patient would be subjected to the poultice, ice or ichthyol treatment with supporting stimulation. In this class of cases I beg you to note the strong ally furnished to the affected part in helping the blood to do an increased amount of work, that help which nature is trying to furnish, but as in the antitoxin treatment, cannot furnish quickly enough.

Again, in the International Text-book of Surgery, we note under "Local Infection":

"The organisms which are most commonly found in these conditions are known as the pyogenic organisms. They produce chemical changes in the tissue by the formation of a toxic substance or poison. The substances exert a peptonizing action upon the cells of the part and cause a coagulation-necrosis or death of the tissues in the immediate neighborhood for a group of microbes, and bring about in the surrounding tissues a reaction which softens them and changes them into pus. In this way the affected area is separated from the rest of the body, and when pus escapes the products of disease are discharged with it. Under less favorable conditions the reaction is less effective, the organisms continue to spread in the surrounding parts, and although suppuration may take place, the walls of the suppurating cavity contain bacteria which are still in active growth and are invading new regions."

A fourth class of cases where this method is of great advantage is in the after-treatment of surgical operations, especially in infected fields or where the field of operation becomes infected. Here do we find our old plan of packing a drainage tube or perhaps of ever using a drainage tube at all superseded, for from clinical experience we know that gauze eventually becomes a

hindrance rather than a help in a richly suppurating wound, and a drainage tube may give a postoperative hernia.

Under this subject of secondary infection, I would call your attention to the fact that the aim of the surgeon is to eliminate these pus-organisms as quickly as possible, because of the devitalized condition of the tissues after the existing surgical condition. How simple a matter now to pump out the detritus and thus aid nature in strengthening the part, rather than to depend on nature to do it all.

And now for the application of the treatment.

As originally suggested by Professor Bier and his assistant, Dr. Rudolf Klapp, in the Surgical Clinic of the University of Bonn, each treatment lasts for forty minutes, is utilized once a day and the application is as follows:

A small linear incision is made through the apex of the inflamed area and a cup is applied for five minutes, with a suction just strong enough to avoid the painful degree. To facilitate suction, some sterile vaseline or ointment (preferably zinc oxide) is applied to the area just around and beneath the rim of the cup. At this first suction following the incision a large amount of pus and sero-sanguineo-purulent material is withdrawn. The cup is then removed for three minutes, and again reapplied for five minutes, thus alternating throughout the forty minutes. The wound and the area are then dressed with a simple ointment and sterile dressings, and the patient sent home to return the next day.

It will be noted that this method of procedure has caused the following phenomena:

(1) Continuous drainage is established for the area, and there has been no curetting or probing or disturbance of the protective wall of leucocytes in process of forming.

(2) The physiological and pathological phenomena are:

- (a) The current in the arteries, arterioles and capillaries is first quickened.
- (b) Then comes a slight retardation of the current, with an increase in intravascular pressure, distension and thinning of the vessel wall.
- (c) An extravasation of blood serum, with possibly a dialysis between the serum in the vessel and that outside of the vessel, thus hastening the process of liquefaction of the necrotic elements.

- (d) An exudation of white and red corpuscles, especially of the former, in great abundance, thus hastening nature's efforts to deposit a protective army at the point most needed.

Occasionally the Bier-Stauungs method of light constriction is also utilized to good advantage, especially where an extremity is involved.

In the treatment of the cases reported in this article there has been a slight modification, and the procedure has been, in general, after this manner:—

So soon as the inflamed region was made out, an incision about one-quarter to one-half an inch in length was made through the most prominent portion, down to and through the deep fascia, into the infected area. The proper sized cup was then applied, using zinc oxide ointment as a cohesive, for a period of five minutes only, followed by a hot pack of bichloride of mercury (1-10,000). The hot pack was changed every hour, and for five minutes between each change the cup was used for the first three hours and then three times daily. There was also utilized a tonic treatment as deemed appropriate.

No packing or probing of the wound was indulged in, and save as a necrotic bit of tissue required removal, no manipulation of the interior of the wound was attempted. Irrigations were also dispensed with, for fear of destroying the protective membrane, and contrary to reason, the incised wound did not close up entirely, while healing took place rapidly and by granulation.

After the incising of the inflamed area, and the first application of the cup, the patients, one and all, remarked at the peculiarly agreeable sensation felt here, and were eager to make the application themselves more frequently. In each case where the lesion was accessible the patient was taught how to apply the cup, as he (or she) was the only one to judge when the painful point was reached.

Each cup was sterilized by boiling immediately before and after using, thus preventing any mixing of infections in the different cases.

Temperature, high pulse, nausea and headache, and in one case, the vomiting, were rapidly alleviated, following the incision and the first cup application, even though no pus was obtained until later.

In a case where pus was demonstrable macroscopically from

the first, the discharge usually ended after forty-eight to sixty hours, but organisms were obtainable, by culture, even to the last, usually changing from the mixed type at first, to a single type in the end, and this of the staphylococcus group.

I judge that the mode of growth of this group tends to crowd out and destroy the other organisms, for the staphylococcus group causes a localized inflammation and one within a well-defined area, when nature has asserted herself strongly.

I now present to you the reports of ten cases, divided as follows:

Two cases of infected finger;

Two cases of typical furuncle, one of the axillary region, and one of the breast;

Two cases of furuncle of the neck, each very extensive in character;

Four cases of acute perforated and gangrenous appendices, two of which were sewed up tight at the time of the usual operation, and subsequently developed phlegmons, and two of which where the abdomen was simply opened and a glass drainage tube introduced, and no attempt made to remove the appendix.

Of these ten cases, nine recovered completely, and one, Dr. W., died forty-eight hours after seeing him, from a previously existing cirrhotic liver, a parenchymatous nephritis, with over 5% albumen, and chronic alcoholism.

All ten were markedly benefited following the cup application, and in nine, the convalescent period was reduced by over half the time.

CASE NO. I.

Miss C., nurse, aged 28, gives a history of having scratched her right forefinger on a pin, some five days ago, while pinning up the bandage of an infected case. Has attempted to treat the resultant condition herself, by means of hot-packs at night and constant bichloride baths by day; but because of the pain running through her right arm and shoulder, has been obliged to seek surgical interference.

Examination shows the right forefinger enlarged, between the second and the third phalanges, to twice the size of the left one. There is a hard induration on the palmar and outer aspect about the size of a copper-penny. No fluctuation is present. A well-marked lymphangitis, with soreness, extends up the forearm almost to the elbow. There is a stiffness of the wrist and elbow, and the axillary region is sore, but no glands are palpable. Temperature, 100°; pulse, 90, full and bounding; some headache; loss of appetite and sleeplessness.

A slight incision was made over the radial aspect of the finger, where the area seemed to be most indurated, and the finger-cup was applied in the usual manner, with the extraction of no pus, but some blood serum. There was also applied the bandage lightly around the arm for periods of four hours at a time. The cupping was continued with hot-packs for thirty-six hours, when the nurse returned to duty, having a normal temperature and pulse, no headache and a slight soreness in the finger. The other symptoms of infection had also disappeared. Cup was then applied for the next thirty-six hours, three times daily, and the wound healed with a scar the size of a pinhead only. This is a case which was not treated from the very beginning, and probably would have gone on to a severe consequence.

CASE No. 2.

E. J., aged 24, has carried two false arms for a number of years, having received a crush of the right arm necessitating an amputation at the elbow, and of the left hand, so that only the thumb and the forefinger are left.

Patient experiences about three times a year an irritation of the parts concerned, due to the rubbing of the false hand; and following this irritation, if neglected, there always appears a severe infection involving the arm and giving other systemic symptoms.

The patient has been treated for the last ten days with hot-packs, following one of the periodical attacks of infection. The focus lies to the ulnar side and at the base of the thumb-nail; it has been opened twice. A suggestion having been made that the Bier apparatus be used, no new opening was made, but the apparatus was applied, and after a use of four days, coupled with cold to the axilla and heat to the forearm, great relief was obtained. Here also a bandage was used on the forearm. The patient made an excellent recovery in five days' time, and resumed his normal occupation.

CASE No. 3.

Dr. W. T. has experienced for some two years past a crop of furuncles. They seem to attack especially his right axilla, but one very persistent one was situated over the left infra-maxillary region. Patient presents an indurated surface of a size slightly smaller than the palm of one's hand, and with a raised area the size of a hickory nut in its very center. This infiltrated area is situated on the inner and axillary aspect of the right arm and is exceedingly painful to touch, as well as giving exceeding torture on movement of the shoulder. The glands in the axilla are distinctly palpable and very tender. No other enlarged glands are ascertained upon physical examination.

The Bier treatment was suggested and acceded to, and a slight incision one-half inch long and a half-inch deep, under ethyl chloride, was made over the prominent portion of the area. No pus was obtained, but the center of induration was decidedly necrotic, and small shreds could be removed by means of the thumb-forceps. No packing or irrigation of this area was allowed, the suggestion being made that hot-packs be applied as often as possible and the suction apparatus be used between each application. There was instant relief following the first application of

the cup, but quite some pain was experienced by reason of using a cup whose rim area was too small. After thirty-six hours, the hot-packs were discontinued, as well as the cupping, and the wound closed within the next twenty-four hours.

The remark was made concerning this case, by the patient, that he had never seen enlarged glands disappear so quickly, as well as the accompanying soreness, as they did here about the twelfth hour after the application of the Bier cup.

CASE No. 4.

Mrs. McC. Diagnosis: Abscess of left breast.

Patient gave history of having her right breast removed some eight weeks previous, in a neighboring hospital, for carcinoma, and says that the present condition developed about one week after, and it is now about one week since her departure from the hospital.

The abscess tended to point just beneath and internal to the left nipple, and was about the size of a hen's egg, very hard and tense in consistency. It was very painful to touch, but there was no enlargement of the axillary region, though this region was tender. The right breast scar was entirely healed, and gave evidence of having done so by first intention.

A small incision one-half an inch in length was made down to and through the deep fascia and directly into the abscess cavity, when about two ounces of pus were evacuated. The Bier cup was applied, together with hot-packs, for forty-eight hours, followed with a cold bichloride pack, and the application of the cup three times a day. At the end of the fourth day the patient left the hospital and went to her home, where the cup was abandoned and the wound simply dressed with a cold bichloride pack.

In this case there was a slight slough in the very center of the incision, which was removed by means of the thumb-forceps; and it would seem as if the cup had hastened the separation of it; for, following its removal, the pus ceased to be produced and a clean and healthy granular surface was presented.

Of all patients, this was the most nervous when the cup was being applied, and yet, after the first application, she welcomed it most cordially.

The scar remaining in her case was very small in size, and the relief afforded in not packing the cavity or irrigating it as frequently as would have been done under the old lines of treatment was appreciated by her.

CASE No. 5.

Mr. L. T., a superintendent of construction, presented himself with a large furuncle on the back of his neck. His past is negative, save that he has had one furuncle near the same spot some years ago, which was lanced, packed and irrigated in the usual manner.

About four weeks ago (June 10th) he noticed a little pimple on the back of his neck. This he picked with a pin, after which it grew steadily worse. Since then he has been poulticing his neck. He experienced severe pains when he lay down at night, but very little when he sat up. On Monday evening, June 18th, furnucle was lanced while

patient was on a trip through Canada. Considerable pus was evacuated and the pain abated somewhat. Two days later, however, the pain recommenced, and he was compelled to seek further surgical advice.

The patient presented on the back of his neck an indurated area of some three and one-half inches in diameter, very painful to touch, and in the center were two parallel incisions about one and one-half inches long. These led down to an inside sloughing mass which discharged a sero-purulent material. The probe sank into the mass for a distance of about one and one-half inches. There was no enlargement of the glands. The patient's temperature was 101° ; his pulse, 80.

Cups were applied in this case for twenty minutes at a time, every three hours, in the routine of five minutes on and three minutes off. Zinc ointment was well rubbed into the area surrounding the incision, so far as the patient could bear the application, and a flaxseed poultice was applied till the following morning, followed by hot bichloride packs (1-10,000). It became necessary to lessen the application of the cups, by reason of the gangrenous appearance of the edges of the wound, and they were applied only once a day. The patient was given a cathartic (and put upon a tonic containing iron) and the temperature immediately dropped, following a good evacuation of the bowels. There was no restriction as to diet, and upon the fourth day a slough was removed through one of the incisions, leaving a hole the size of a horse chestnut. This seemed to be a complication in the case contrary to desires. An irrigation of diluted nitric acid twice daily was ordered.

The patient was discharged from the hospital on the 29th, but for the last four days had been attending to his business downtown, simply going back to the hospital for the Bier treatment and the dressing of the wound. At the end of the second week, or on August 6th, the very last of the wound had closed, leaving a parallel scar about one-quarter inch in length, but with no deformity or contraction of the tissue beneath as yet.

The patient has been seen frequently since that time, and remarks at the ease and simplicity utilized in this manner of treatment as compared with previous experiences with abscesses.

CASE No. 6.

Dr. W. A., aged 65, has suffered for six weeks with a furuncle on the back of his neck, and when I saw him the furuncle extended from one pinna of the ear to the opposite side, and in vertical aspect was four inches or more in size. The area in the center was slightly honey-combed, and led one to suspect a condition of actinomycosis. It was very painful to touch. The glands in the axilla were very tender, as well as those in the infra-clavicular region. On both sides, behind and beneath the ear, was a protruding area the size of a pigeon's egg, which fluctuated upon handling. In the center of the wound, about this honey-combed area, there was a bogginess differing decidedly from the hard indurated feeling of the remainder of the mass, and which, upon pressure, yielded a thick pus from the openings.

The patient's past history was one of chronic alcoholism, together with many severe accidents experienced during the last few years, and he

showed an extreme condition of nephritis, there having been about five per cent of albumen in a specimen voided at entrance. He was slightly delirious, but could be recalled to himself, and had a temperature of 102° , with a pulse of 120.

It was realized that this was a severe case, and it was suggested that the Bier treatment be tried, together with hot-packs, to which the patient acceded, and under ethyl chloride an incision one and one-half inches long and three-quarters of an inch deep was made in the abscess under the left ear, which yielded about an ounce of pus, and a similar vertical incision was also made in the center of the neck, but this did not yield much pus, although the scalpel passed through the deeply infiltrated and sloughing area. For the next twenty-four hours the process of cupping was adhered to, and was abandoned because of the delirium of the patient and his point-blank refusal to have anything done. During this time, however, the hot-packs yielded fair results. Under coercion the cups were again allowed to be applied, and from the abscess on the left at least two ounces were obtained, while from the abscess in the center of the neck shreds of tissue, as well as a sanguino-purulent material, were withdrawn. In the meanwhile the patient was given a supporting treatment consisting in the main of whiskey in very small doses, together with quinine, but he gradually passed into a state of delirium with excitement, and died some four days after entrance to the hospital. This is the first case where the success has not been as great as could have been hoped for, and yet the adverse conditions of the patient in a large measure seemed to gainsay any hope for his ultimate recovery.

CASE No. 7.

W. L., bookkeeper, taken ill some two weeks ago with a pain which settled in the right lower quadrant, had the typical symptoms of appendicitis, and his physician ordered an ice-pack applied. On the third day there was an exacerbation, and the patient kept to his bed until the tenth day, when he took a short walk, and on the next day began to have such severe pain that the physician was again called, when a diagnosis of perforated appendix was made. The usual operation was performed, and a condition of gangrenous appendicitis was proven and the concretion which had caused the trouble was found. But the location of the appendix precluded its removal entirely, and the wound was closed with silkwormgut sutures, there being one glass tube and one vaginal tampon left in as drainage. Patient did well for three days, when he developed some pain in the right side, mostly gaseous in character. Manipulation of tube to facilitate drainage, the same as usual in such cases, was tried, with no result. On the fourth day the right side above the wound was very sensitive to the touch, and on the sixth day the wound began to discharge a very foul-smelling pus, following up the loosening of three of the silkwormgut stitches. After this the hot bichloride packs were utilized, and the wound was irrigated with boracic acid and various other solutions, but seemed disinclined to fill in, as a small fistula was persistent. On the eighteenth day the Bier apparatus was applied, using it twice daily, and on the 28th day the patient was discharged from the hospital with no evidences of latent condition remaining.

During this time a comparison was furnished very nicely by a brother practitioner, who treated his patient under exactly the same conditions, by means of irrigations and hot-packs, and which patient remained in the hospital some two weeks after the discharge of W. L. A close comparison of the cases showed that they were as nearly similar as could be obtained in surgical lines.

CASE No. 8.

Mr. C. J., an examiner, has been perfectly well until three days ago, when he was taken with severe pains in his abdomen, and these finally localized in thirty-six hours, when a diagnosis of appendicitis was made by his attending physician, and an operation was acceded to. Blood count showed an increasing leucocytosis, even following the removal of a completely gangrenous appendix, and where no adhesions existed. Drainage was instituted and the wound was closed with silkwormgut sutures, which had to be removed at the end of the third day. Drainage continued to be enormous until the sixteenth day, when the Bier apparatus was suggested, and was utilized four times daily at first, with a result of sanguino-purulent material of fecal odor, followed later by decreasing amounts. This patient was finally treated twice daily in this manner for two weeks before dismissal, and seemed to be an especially hard one to handle. However, at the end of the month in the hospital he was discharged, with no fecal fistula or sinus remaining.

CASE No. 9.

Mrs. H., a very fleshy woman, was seen Sunday morning, taken immediately to the hospital, where she was operated upon, and a gangrenous appendix removed, together with drainage of the abscess. The wound was closed in with silkwormgut sutures, and the patient did well up to some ten days afterwards, when a slight induration and prickly sensation developed in the upper angle. Upon opening this about two ounces of pus were released, and the temperature, pulse and headache accompanying the condition immediately disappeared. Hot-packs were then applied and the wound continued to drain for about a week, when the Bier treatment was applied, the discharge increasing for some twenty-four hours, then gradually disappearing in the course of the next forty-eight hours. The condition was apparently relieved, the wound healing by granulation, and with no other untoward symptoms.

The patient did not complain of the treatment in this instance, as was to be expected, for at the first cupping the instrument was applied somewhat more strongly than necessary, producing a discoloration of the skin. However, she learned to apply it, and did so herself the second time and several times following.

The result in her case was very gratifying, as her infection was one of the superficial layers, and not deep down into the abdominal cavity, as was first thought. However, no probing of the wound was allowed, and there was no necrotic tissue in this instance to be removed.

CASE No. 10.

Mrs. B. presented herself, complaining of severe and sudden pains in the right lower quadrant of the abdomen. Diagnosis of a twisted

pedicle of an ovarian cyst was made. She had had trouble, however, for the last few years with mild attacks similar to the present, and a tentative diagnosis of chronic appendicitis was also entertained.

The usual median laparotomy was performed. An appendix deeply imbedded in adhesions, and with some pus, was found, as well as an ovarian cyst the size of an orange, and partly strangulated. It seemed wisest to make a counter-incision in the right iliac region, through which a drainage tube was passed down into the cavity formerly occupied by the appendix, and the median incision was then closed by the layer method. The median incision healed kindly, and there was considerable drainage for a week through the counter-opening, the drainage tube having been removed at the end of this time, and gauze substituted. This opening apparently refused to heal, once the edges being scraped and a few silkwormgut sutures introduced in order to approximate them. However, another week of hot-packs and irrigations followed, with still no appreciable effect upon the surfaces. Following the removal of the silkwormgut sutures, balsam of Peru was also attempted, and the Bier cup was then applied. During the period of the first few applications of the cup considerable serum and sero-purulent material was obtained, but after a week's application, three times daily, for ten minutes at a time, and not very strongly, the wound closed in by granulation, and the patient left the hospital entirely healed, and with a firm scar.

Of all the cases treated in this manner, this case appeared to be the most stubborn. It seemed as if the edges of the wound lacked the necessary tone for healing, and there was a question of possible tubercular condition of the area. However, the pathological report upset this theory.

CONCLUSION.

In conclusion, I would heartily advocate the use of the cupping method as one of inestimable value in such cases where there is an inflammatory condition, even utilizing it before the stage of the active pus process is present, as well as in those conditions where the tissues apparently lack the proper tone. Here the application seems to impart the vigor that is necessary in granulation. It is to be especially noted that in the active purulent stage, the hot-packs give great aid in helping to throw off necrotic particles, and keep up, to a material extent, the hyperemic condition supplemented by the application of the cup at definite intervals.

Concerning definite rules for the treatment, it can be said that there are none, save those that forbid of the severe application of the cup, such as to cause pain to the individual.

I would suggest that a large series of cases be tried with this treatment, and statistics collected, thus helping to establish certain definite lines for indication of the method.

Editorial

Now Dr. Middleton was a clever, sensible man, who had no wish to impose upon anyone. As for his taking a guinea for putting on a piece of sticking-plaster, his conscience was very easy on that score. His time was equally valuable, whether he was employed for something or nothing; and, moreover, he attended the poor gratis.

Mr. Midshipman Easy.

CAPTAIN MARRYAT.



The proposal to invigorate the Association of the Alumni of the Albany Medical College made last spring by the Executive Committee has been given further consideration by the Committee, and on November 7th a meeting was held for the purpose of promoting the interests of the Association. The treasurer's report indicated a very gratifying response to the circular letter of May 10th, 1906, which was mailed to the members of the Association.

The Committee indulged in an informal discussion of the best manner of celebration of Alumni Day, and a sub-committee of five was appointed to suggest a program of entertainment. The principal topic was that of the method of electing officers of the Association, and it was unanimously agreed that the so-called blanket ballot to permit voting by mail, now in use with so many organizations of learned and honorable gentlemen, would best answer the purposes of the Association.

For carrying out the details of this form of ballot the following series of resolutions was adopted:

Resolved, That the Executive Committee prepare annually a printed ballot to be used by members of the Association for the election of officers of the Association, which shall be mailed to every member of the Association where name and address are on its rolls, not less than one month before the annual meeting.

Resolved, That any member's ballot is valid which bears his signature and address, and is received on Alumni day, not later than an hour to be specified by three tellers appointed by the President of the Association.

Resolved, That the President of the Association be empowered to appoint each year three tellers from the membership of the Executive Committee to collect and count the ballots at the annual meeting, one of said tellers to be designated by the President to receive the ballots.

Resolved, That nominations for the various offices to be elected at the annual meeting of the Association be made by the Executive Committee at such time as to permit the printing and distribution of ballots to meet the requirements of the resolution regulating the preparation and mailing of the ballots.

Resolved, That the Recording Secretary be directed to notify the secretaries of the Alumni Associations of New York, New England and Central New York, respectively, of the action taken by the Executive Committee and request them to nominate two candidates each for the office of Vice-President.

Resolved, That the Executive Committee nominate each year two candidates from the Association at large for Vice-President and that from the five Vice-Presidents elected select hereafter each year two candidates for the Presidency of the Association to be the nominees of the official ballot.

Resolved, That on the official ballot prepared by the committee space be left for the insertion of names for each office, to be written in at the pleasure of the member signing the ballot.

The Committee has undoubtedly taken an important step, and places it in the power of individual members of the Association to express any personal preferences as to the methods of conducting its affairs. With an active membership of fifteen hundred, there is every reason to believe that the Association will make itself felt in the affairs of the College and will exert an influence for good upon the progress and principles of medical education.

Little Biographies

XII. WRISBERG.

HEINRICH AUGUST WRISBERG, a celebrated anatomist, was born June 20th, 1739, in St. Andreasberg, Harz, and died March 29th, 1808. At the time of his death he was Professor of Anatomy and Director of the Anatomical Institute at Göttingen. He was Roederer's successor in the University, and also taught obstetrics for several years. After completing his studies at Göttingen he took a post-graduate course in France and Holland. He received his professorship in 1763.

Wrisberg was renowned for his profound and general knowledge and his remarkable skill in practical anatomy, but particularly for his large number of investigations of the nervous

system. He was one of the first to describe the occasional presence of the supreme splanchnic nerve. The ganglion Wrisbergii magnum is named after him, as is also the lesser internal cutaneous nerve. He also minutely described the nerve plexuses of the female genital organs.

Wrisberg did an enormous amount of literary work. He published A. V. Haller's physiological works, Roederer's works on obstetrics, and Zinn's *Descriptio Oculi Humani*, in two editions. He also published a large number of original papers in the "Göttinger Gesellschaft der Wissenschaft." The following is the list of these contributions: *Descriptio Anat. Embryonis Observationibus Illustrata* (1764), *Observatio Anat. de Genito Pare Nervorum Encephali* (1777), *De Testiculorum ex Abdomine in Scrotum Descensu, Observationum Anat. de Nervis Viscerum Abdom. Partic.: P. I, Quae de Ganglio Plexuque Seminali Agit, P. II, De Nervis Hepatis et Splenicis, P. III, De Nervis Viscerum Abdom.; Observationes Anatomicae de Corde Testudinis Marinae Mydas Dictae, Collectae et cum Corde Humano Collatae* (1800), *Sylloge Commentationum Anatomicarum* (1786), *Experimenta et Observ. Anat. de Utero Gravido, Tubis, Ovariis et Corpore Luteo Quorundam Animalium cum Iisdem Partibus in Homine Collatis* (1780), etc. He also described the laryngeal cartilages called by his name.

CLEMENT F. THEISEN.

Scientific Review

ON THE PHYSIOLOGY OF HEART-BLOCK IN MAMMALS, WITH SPECIAL REFERENCE TO THE CAUSATION OF STOKES-ADAMS DISEASE. BY JOSEPH ERLANGER.

(*The Journal of Experimental Medicine*, Vol. 7, No. 6; Vol. 8, No. 1. November, 1905; January, 1906.)

This important study by Erlanger is divided into three parts: 1. Observations on an instance of heart-block in man; 2. on the physiology of heart-block in the dog; 3. on the relation of heart-block to Stokes-Adams disease.

At the present time, two views are held with regard to the path taken by the impulse which normally causes the various chambers of the heart to beat. According to the older view, the impulse arises in the automatic ganglia of the heart and is distributed to the musculature through the medium of nerves. Ac-

ording to the more recent view, the impulse arises from the automatically rhythmical musculature of the great veins and passes thence to the various chambers of the heart through the muscles, after the nature of peristalsis. The greatest stumbling block for the supporters of the latter or myogenic theory consisted in the view that in mammals the musculatures of the auricles and ventricles are completely separated from one another by connective tissue. Until it could be shown that this is not the case, this myogenic view was untenable at least in so far as it concerned the mammals.

To His, Jr., belongs the credit of being the first to find a muscular connection. He has shown, and this has since been abundantly confirmed, that in mammals there is a narrow band of muscular tissue joining the auricles with the ventricles. This connecting bundle lies in the ventricular septum just above the muscular and below the membranous portions and about ten millimeters below the posterior cusp of the aortic valves. It then curves over the upper edge of the muscular septum and sends its fibres into the wall of the right auricle and into the musculature of the auricular valves. In the heart of adult man the band is eighteen millimeters long, two and five-tenths millimeters wide and one and five-tenths millimeters thick. The anatomy of this bundle in other mammals is essentially similar to that in man. As the auriculo-ventricular bundle of His represents the only demonstrable muscular connection between the auricles and ventricles in the heart of mammals, it follows that if the myogenic theory is correct, destruction of this bundle should prevent the passage of the impulse from one chamber to the other.

Erlanger mentions the attempts which have been made by various investigators to destroy this connection. They have heretofore been only partially successful and the studies have been incomplete. He describes the investigations made by himself upon the mode of conduct of this impulse with the hope that a solution of the problem might throw some light on the pathogenesis of heart-block. In fourteen preliminary experiments he was successful in only three, owing to the fact that he was unable to properly destroy the bundle of His. Finally a specially devised clamp was made which proved to be entirely successful. By means of it the portion of the heart containing the bundle of His was effectively grasped, and the pressure upon it was modi-

fied by a properly adjusted thumb-screw. Though the results of the experiments carried out in this manner varied slightly in detail, it was possible in every case to obtain heart-block with comparative ease.

If the clamp had been properly adjusted on the heart the latter continued to beat with undisturbed sequence and rhythm. Upon gradually tightening the clamp the first effect was often an increase in the time intervening between the beginning of an auricular contraction and the beginning of the ventricular contraction, the "intersystolic period," of the same cardiac cycle. The duration of this intersystolic period then gradually increased in the succeeding cycles until eventually the ventricles failed to respond to an auricular contraction (a "ventricular silence"). At first the ventricular beats were dropped rather irregularly, but soon the silences recurred regularly; the same number of small beats were always interposed between them. These rhythms varied from two to one to nine or ten to one (stages of "partial block"). On further clamping this partial block was changed into a "complete" block, in which the beats of the ventricles were totally independent and very much slower than those of the auricles. The reverse order of changes occurred when the clamp was gradually released. Partial block could not be maintained over a long period of time without changing to either complete block or normal sequence. It was possible, however, to keep the block complete for over an hour and still have the normal sequence properly return upon releasing the grasp of the clamp. These two perfect and independent rhythms are characteristic of complete block. The rate of the ventricles is always considerably less than that of the auricles—the average rate being about one to three.

Erlanger details experiments done by him to test the relative influence of the vagus nerve upon the contraction of the auricles and ventricles. He found that in any stage of partial block, both may be completely inhibited by appropriate stimulation of this nerve; this inhibition was obtained as easily as under normal conditions. When the block was complete, stimulation of the peripheral end of the vagus, although it decreased the auricles, showed absolutely no effect upon the ventricles. This loss of the influence of the vagus over the ventricles was always exactly synchronous with the establishment of complete heart-block.

Under these conditions section of both vagi had little or no effect upon the rate of the ventricles, although the usual change in the rate of the auricles occurred. Stimulation of the accelerator, however, as a rule, increased the rate of the ventricles as much proportionately as that of the auricles. Other experiments, such as alterations in variation of blood pressure, cutting of the splanchnics, general asphyxia carried to the convulsive stage, blocking of one coronary artery, etc., had no effect on the ventricular rate.

Though at autopsy upon cases in which heart-block had been obtained it was always macroscopically evident that the bundle of His had been embraced by the clamp, in order to have more exact control of this important condition, the tissue was examined microscopically in some cases. Invariably these histological examinations showed that the auriculo-ventricular bundle of His had been included in the clamp. On the other hand, in the cases in which heart-block was not obtained, it was found that the His bundle had not been so included.

In the first part of Erlanger's paper he describes the experiments made by himself upon a case of Stokes-Adams disease.

The clinical history of this case was, briefly, as follows: Male, colored, aged thirty-four years; complained of vertigo, soreness in chest and shortness of breath on exertion. In his past history there was nothing of importance, except a clear history of syphilis contracted about seven years before onset of present trouble, and including a costal gumma about three years before. The attacks of dizziness had appeared about two months before admission; at first very slight, then gradually increased in severity and about a week before admission he had had his first attack of dizziness accompanied by unconsciousness. On examination, pulse at wrist was eight to the quarter minute, but at the apex thirty-one beats to the quarter were heard. The cardiac impulse was diffused and difficult to localize; sounds were clear, one strong beat followed usually by two extremely feeble impulses, the sounds of which were just heard; all first sounds were associated with feeble but clear second sounds. The veins in the neck were very full, especially on the right side; waves were seen in these, the rapidity of which it was difficult to make out. The patient was admitted to the hospital on November 11th. Up to January 23rd he had but five definite syncopal attacks in which he lost con-

sciousness or fell, but very often had spells of dizziness. On March 20th he had many attacks, but at this time it was noted that a steady increase in heart rate was in progress. On March 29th the heart was apparently normal—rate seventy-two per minute. Following that time the condition of the heart remained normal and the patient had no syncopal attacks. The improvement in condition followed treatment with potassium iodide.

The physiological observations of the patient were as follows: Tracings of the cardiac impulses were made by means of Marey's cardiograph. At the same time tracings of the venous pulsations were obtained in the external jugular vein and the arterial pulsations were recorded with the author's sphygmomanometer. Examples of the tracings thus obtained are given with a careful analysis of the waves recorded. The analysis demonstrates that the tracings of the apex beat, jugular pulse and brachial pulse of this patient show two perfectly regular and independent rhythms, each recurring without reference to the other. The waves due to ventricular contraction and those due to auricular contraction are easily distinguished one from the other. When by accident they are synchronous, the resulting wave is an algebraic sum of the two. The only known condition in which such waves might occur is one in which the impulse causing the auricles to contract does not reach the ventricles; these two regions of the heart, therefore beating rhythmically and independently of one another, complete heart-block. During the improvement in the condition of the patient, tracings were obtained which showed that the condition of partial heart-block existed; the ratio varying from two to one to sometimes seven or eight to one.

Erlanger experimented with the effect of extrinsic influences upon the rates of the auricles and ventricles in both complete and partial heart-block. Influences which apparently act upon the heart by means of a vagus control, such as posture, inhalations of ammonia or oxygen, the giving of atropine, etc., in complete block had no influence over the pulse (ventricular rate), though the influence over the auricles was that normally shown toward the whole heart. During partial block a proportional influence upon the ventricles was also noted. Influences acting upon the heart through the accelerator nerves, however, such as

exercise, showed a proportional effect upon both ventricles and auricles.

The effect of atropine will be spoken of more in detail.

Atropine. Dehio first suggested the use of atropine for the purpose of determining the part played by the inhibitory apparatus in the causation of the slow heart beat. This method of diagnosis was used by him in a case of Stokes-Adams disease, with the result that no effect upon the pulse rate was noticed. His observation, together with other similar ones which have since been made, indicates that in cases of this disease the vagi do not act upon the ventricles, but no one has compared the effect of this drug on the rate of ventricles with its effect on the rate of the auricles. Erlanger performed three such experiments. After giving one milligram of atropine subcutaneously it was found that the auricles responded as the whole heart normally responds; that is, after a preliminary slowing, the rate began to increase and reached a maximum in about three-quarters of an hour. It then decreased slowly and somewhat irregularly. In the meantime the ventricular rate was practically unchanged except for a very slight reduction. In partial block the effect upon the auricles was the same. The ventricular rate varied irregularly, but these irregularities were explained by the change in rhythm which takes place during partial block.

Erlanger has determined that during the syncopal attacks in addition to the well known slowing of the ventricular rate, there is a decided increase in the auricular rate. This acceleration is at first gradual and the return to normal is also gradual. Inasmuch as this increase in the auricular rate always occurs at the time of an attack, and furthermore any influence which brings on an attack first increases the auricular rate, he believes that this increase is the most important factor in causing the syncopal attacks. He definitely excludes a decrease of the ventricular rate and the fall in blood pressure as the cause of the increased auricular rate. He notes that asphyxia increases the auricular rate and at the same time decreases the ventricular rate; asphyxia in several cases both experimental and in the course of Cheyne-Stokes respiration brought on typical attacks. He notes as well that the effect of the atropine was to decrease the frequency of the syncopal attacks. This apparent inconsistency he explains by the fact that the increase in auricular rate is here

gradual and not sudden as in the other cases. This freedom from attacks following atropine is perhaps due to the fact that the auricles are thus relieved from the influence of the vagi, and thus one of the factors causing sudden variations in the rate of the auricles is abolished.

He finds that the cardiac signs (slowing of the ventricles and increase in the rate of auricles) always preceded the subjective symptoms connected with the approach of an attack. This observation is in accord with the results of other investigators and indicates that the attacks of syncope are the result of deficient blood supply to the brain.

It was found that during complete block the maximum blood pressure was slightly higher, whereas the minimum blood pressure was considerably lower than during the normal state. This, of course, indicates that the mean blood pressure is higher when the heart is normal than when complete heart-block exists. It was noticed that during complete block the respirations and ventricular rhythms were synchronous, and if for any reason the respiratory rate is momentarily disturbed, it quickly returns to the ventricular rhythm. When block is partial, this rule did not hold.

Erlanger also observed a second case of Stokes-Adams disease, though he had but one opportunity of making tracings of the heart movements. This cardiogram, however, shows all the features seen in the first case. The case is of interest, because this patient, too, gives a history of former syphilis.

He summarizes his observations upon these cases of Stokes-Adams disease as follows: (1) The investigation shows that the symptoms of this case undoubtedly are caused by some lesion of the heart, which gives rise to the condition now generally termed heart-block. (2) Practically all degrees of heart-block have been observed, partial block occurring during recovery. (3) Experiments testing the reaction of the heart to various extrinsic influences demonstrate that when the block is complete the ventricles do not respond to influences presumably of vagus origin, though the auricles still respond freely to such influences. (4) The effects probably exerted upon the heart through the accelerator nerves still influence the rate of the ventricles as well as that of the auricles. (5) When the block is partial, ventricular rate varies proportionately with the auricular beat, but only within certain limits. When these limits are exceeded the

block becomes more complete. (6) The syncopal attacks are in all probability directly dependent upon a marked reduction of the ventricular rate. Such reduction of the ventricular rate is always associated with an increase in the auricular rate, and it is believed that the latter is the cause of the former.

A comparison of parts one and two will show that the relationship between the results of the study of a case of heart-block in man and heart-block in the dog is so close that there is no reason to doubt that the condition in man was caused by the same factor as in the dog. That heart-block in man is due to a diminution in the conductivity of the auriculo-ventricular bundle of His is borne out, not only by the fact that the condition exists, but also that the vagus has lost its influence over the ventricles; that presumably the accelerator nerves still preserve their influence over the ventricles and that the ventricles may stop beating over long periods of time while the auricles continue to beat without interruption.

The writer here discusses the question, Will a lesion in the vicinity of the auricular-ventricular bundle account for all the typical symptoms of Stokes-Adams disease? Such symptoms are (1) slow pulse, sometimes associated with pulsations in the veins of the neck, which may be more than twice as frequent as the ventricular beats; (2) syncopal attacks, either epileptiform or apoplectiform in character and in which the pulse rate is unusually slow. That the first symptom has already been satisfactorily explained by the presence of the condition of heart-block is evident; in regard to the latter, it has been shown that in heart-block there may be periods of unusually slow pulse. It has also been shown that the syncopal attacks are due to the slowing of the ventricular rate. Other writers have called attention to the fact that the epileptiform seizures of Stokes-Adams disease may be due to anaemia of the brain, caused by failure of the heart to supply a sufficient quantity of blood, and thus are similar to the convulsions often seen after profuse hemorrhage in man and animals and to those seen after ligature of the great vessels of the neck. The apoplectiform attacks might also be accounted for in much the same way; with somewhat less slowing of the ventricles, venous congestion would be great and the fall in arterial pressure might not be extreme. Apoplectiform attacks have been noted by other writers in marked venous or arterio-venous congestion of the brain.

Having proved that heart-block will cause all the symptoms of Stokes-Adams disease and that in his two cases heart-block did exist, Erlanger has attempted to analyze all cases of Stokes-Adams disease thus far reported with the purpose of ascertaining whether or not heart-block existed in them all. The complete analysis was found impracticable owing to the meagre details given in many of the reports, but he has come to the conclusion that in no single instance among the many cases examined, has the description of a typical Stokes-Adams disease precluded the existence of heart-block. He has selected from all cases described those that have been studied by methods of sufficient accuracy to permit of exact diagnosis and has found that all have proved to be instances of heart-block.

As any interference with the transmission of a normal impulse from auricle to ventricle should be included under the head of heart-block, it is only necessary to show that the ventricles more or less regularly fail to respond to one or more of the regular recurring auricular impulses in order to make diagnosis of heart-block. Though the best method of reaching a correct diagnosis in these cases is by making tracings of either one or all of the following: apex beat, jugular pulse and arterial pulse, and finding therein the marks of two perfectly regular rhythms due to the auriculo-ventricular beats; however, in most cases it should be possible to arrive at the diagnosis of heart-block with the aid of the usual clinical methods. Though the earliest stages of the condition, that is, lengthening of the intersystolic period and occasional ventricular silences would usually remain undiscovered because giving no symptoms and hence not looked for, later stages when the difference between the auricular and ventricular pulse rates is marked should cause no trouble in diagnosis. Erlanger gives the differential diagnosis between this condition and the only others which might be confused with it—(1) alternating pulse; (2) extra systole of ventricular origin. The writer believes that the distinction between heart-block with and without syncopal attacks is an arbitrary one and that the two conditions merely represent two stages of the same disease.

The writer speaks of the various causes which have been described for this disease and shows their inadequacy as a general rule. He has been able to find only three cases in which there was a probable lesion of the auriculo-ventricular bundle, probably because such lesions have not been looked for. That both

of his cases gave a clear history of syphilis and that one of them practically recovered under the use of potassium iodide, as did a patient of Jaquet's, the writer considers significant. But, if syphilis causes heart-block, it certainly is not the only cause; at least it does not seem to be mentioned more frequently in the history of cases of Stokes-Adams disease than in the histories of other diseases. He also points out the probability of a lesion of the mesial leaflet of the tricuspid valve causing a disturbance of the function of the auriculo-ventricular bundle on account of their normal close association.

In addition to the value of potassium iodide in the treatment of some cases he also points out the value of atropine in temporarily stopping the attacks of syncope.

His conclusions are as follows:

(1) All of the cardinal symptoms of Stokes-Adams disease may be duplicated by heart-block, resulting from a lesion in or near the auriculo-ventricular bundle of His, and by this alone.

(2) No typical case of Stokes-Adams disease has been described in which heart-block might not have been the cause of the trouble.

(3) It can be shown that all cases of Stokes-Adams disease which have been studied by sufficiently accurate methods were cases of heart-block.

(4) It would appear that heart-block without and with syncope attacks are two stages of the same disease process.

Abstracted by H. C. GORDINIER.

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH—ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS FOR OCTOBER, 1906.

<i>Deaths.</i>	1902	1903	1904	1905	1906
Consumption	26	16	21	20	16
Typhoid Fever.....	0	3	0	2	0
Scarlet Fever.....	0	1	0	0	0
Measles	0	5	0	0	0
Whooping-cough	2	0	0	0	0
Diphtheria and Croup.....	4	0	0	4	1

<i>Deaths.</i>	1902	1903	1904	1905	1906
Grippe	0	2	0	0	0
Diarrhœal Diseases.....	5	7	3	4	5
Pneumonia	9	7	12	7	5
Broncho-pneumonia	0	0	0	8	0
Bright's Disease.....	11	12	15	8	18
Apoplexy	10	14	2	14	11
Cancer	8	7	9	4	7
Accidents and Violence.....	7	8	9	3	13
Deaths over seventy years.....	16	26	23	17	33
Deaths under one year.....	9	14	18	17	12
Total deaths.....	136	137	136	135	141
Death rate.....	16.00	16.12	16.00	15.88	16.59
Death rate less non-resi- dents	14.35	14.35	14.83	13.65	14.35

Deaths in Institutions.

	1902		1903		1904		1905		1906	
	Resi- dent	Non- resi- dent	Resi- dent	Non- resi- dent	Resi- dent	Non- resi- dent	Resi- dent	Non- resi- dent	Resi- dent	Non- resi- dent
Albany Hospital	7	6	10	10	18	8	8	7	9	9
Albany Orphan Asylum.	1	1	3	0	1	0	1	2	0	0
County House.....	2	2	3	0	4	1	2	2	1	0
Homeopathic Hospital..	2	0	0	0	2	0	2	0	1	2
House of Shelter.....	1	0	0	0	1	0	0	0	0	0
Home for the Friend- less	0	0	2	0	0	0	0	0	0	0
Little Sisters of the Poor	2	0	0	0	0	0	0	0	1	0
Child's Hospital.....	0	0	0	0	0	0	0	0	0	1
Public Places.....	0	3	0	2	0	0	0	0	1	6
St. Frances de Sayles Orphan Asylum.....	0	0	0	0	0	0	0	0	1	0
St. Margaret's Home...	0	0	1	1	3	1	6	5	0	1
St. Peter's Hospital....	2	1	0	1	1	0	2	2	5	2
Sacred Heart Convent..	0	0	1	0	0	0	0	0	0	0
Births										57
Marriages										30
Still Births.....										7

BUREAU OF PLUMBING.

In the Bureau of Plumbing, Drainage and Ventilation there were two hundred and forty inspections made, of which one hundred and fifty-four were of old buildings and ninety-six of new buildings. There were sixty iron drains laid, twenty-eight connections to street sewers, thirty-four tile drains, eighteen urinals, two latrines, ninety-seven cesspools, two hundred and fifty-two wash basins, eighty-four sinks, one hundred and ninety-one

bath tubs, forty-six wash trays, three butler's pantry sinks, four trap hoppers in yard, two hundred and ninety-four tank closets, nineteen slop hoppers, twelve shower baths. There were one hundred and twenty-nine permits issued, of which one hundred and five were for plumbing and twenty-four for building purposes. There were twenty-six plans submitted, of which eight were of old buildings and eighteen for new buildings. There were four houses tested, on complaint, with peppermint test. There were fifteen water tests made. Two houses examined on complaint and twenty-six re-examined. Eleven complaints were found valid and ten without cause.

BUREAU OF CONTAGIOUS DISEASES.

<i>Cases Reported.</i>	1902	1903	1904	1905	1906
Typhoid Fever.....	13	3	9	10	3
Scarlet Fever.....	7	5	2	22	10
Diphtheria and Croup.....	59	24	9	24	20
Chickenpox	8	3	1	0	0
Measles	0	4	4	0	3
Whooping-cough	0	0	1	0	0
Consumption	0	0	1	4	0
Totals.....	87	39	27	60	36

Contagious diseases in relation to public schools:

	<i>Reported.</i>			<i>Deaths.</i>		
	D.	S.	F.	D.	S.	F.
Public School No. 1.....	4					
Public School No. 2.....	1					
Public School No. 9.....			1			
Public School No. 14.....	1					
Public School No. 15.....	1					
Public School No. 17.....	2	1			1	
Public School No. 20.....		4				
Public School No. 24.....		1				
Albany Business College.....	1					

Number of days quarantine for diphtheria:

Longest.....	59	Shortest.....	3	Average.....	21 3-4
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Number of days quarantine for scarlet fever:

Longest.....	67	Shortest.....	19	Average.....	35 5-6
Cases of diphtheria reported.....	20				
Cases of diphtheria in which antitoxin was used.....	16				
Cases in which antitoxin was not used.....	4				
Deaths after use of antitoxin.....	1				

Fumigations:

Houses.....	27	Rooms.....	71
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Society Proceedings

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

The semi-annual meeting of the Society was held in the Alumni Hall of the Albany Medical College on Wednesday evening, October 10th, 1906. The meeting was called to order by the President, Dr. G. G. Lempe. The following members were present: Drs. Archambault, J. L., Bailey, Baldauf, Bedell, A. J., Beilby, Bendell, Blair, Case, Classen, Cook, Cox, De Voe, Goewey, Gutmann, Hacker, Husted, Jenkins, Joslin, Le Brun, Lipes, Lomax, Macdonald, MacFarlane, Mereness, Merrill, Mitchell, Montmarquet, Moore, C. H., Moore, J. M., Moston, Muller, Murray, Meyers, Nellis, Neuman, O'Leary, D. V., Jr., Papen, G. W., Sr., Pearce, Peltier, Pease, Rooney, Rulison, H., Shanks, Silcocks, Stevenson, Traver, Trego, Troidle, Vander Veer, A., Vander Veer, E. A., Van Auken, Ward, Zeh.

1. *Reading of the minutes of the last regular meeting.*

Dr. LIPES moved that the minutes as printed in the ALBANY MEDICAL ANNALS be adopted. The motion was seconded and carried.

2. *Reception of reports of officers and committees.* No committees reported at this time in the order of business.

3. *Election of members.*

A communication was read by the Secretary from the Secretary of the Board of Censors recommending for membership Drs. W. P. BRIERLY, J. N. B. GARLICK, M. J. KEOUGH, W. D. B. LESTER, HENRY F. C. MULLER, HARRY RULISON, and LUMAN B. RULISON.

Dr. CRAIG moved that the Secretary be instructed to cast one ballot for the names presented. This motion was seconded and carried.

The Secretary cast one ballot and the President announced the election of Drs. BRIERLY, GARLICK, KEOUGH, LESTER, MULLER, RULISON and RULISON as members of the Society.

4. *The Vice-President's address.*

The Vice-President, Dr. J. D. MONTMARQUET, delivered an address entitled "Hysteropexy Followed by Repeated Pregnancies. Report of Three Cases."

At the conclusion of Dr. MONTMARQUET'S address Dr. MACFARLANE moved a vote of thanks to Dr. MONTMARQUET for his interesting and able paper, and recommended its publication. The motion was seconded.

Dr. VANDER VEER said that the paper was a contribution of great value. Although surgeons are not entirely agreed on any one operation, he approved in large measure of what the speaker had said regarding the Kelly operation. There could be no difference of opinion, he said, regarding the great value of the publication of such cases as had been described in the address, and he felt personally grateful to the author for it.

The motion was carried.

5. *Election of delegates.*

The President called for nominations for the office of delegate to the State Society, two delegates to serve for two years and one for one

year. Dr. VANDER VEER nominated Dr. W. G. MACDONALD to serve for two years, Dr. WARD nominated Dr. L. H. NEUMAN to serve for two years, Dr. E. A. VANDER VEER nominated Dr. J. D. CRAIG to serve for one year, and Dr. COOK nominated Dr. A. H. TRAVER to serve for one year.

Dr. MERRILL moved that the Secretary cast one ballot of the Society for the two delegates nominated to serve for two years.

The motion was seconded and carried.

The Secretary cast the ballot.

The President declared Drs. W. G. MACDONALD and L. H. NEUMAN elected delegates to the State Society to serve for two years.

The President appointed as tellers in the balloting for delegates for one year Drs. MACFARLANE and CLASSEN.

The ballots were collected and counted.

Dr. TRAVER received twenty-four votes and Dr. CRAIG twenty-three votes.

The President declared Dr. TRAVER elected as delegate to the State Society to serve for one year.

Dr. NEUMAN stated that inasmuch as his position as Chairman of the Committee on Scientific Work carried with it the privilege of voting in the House of Delegates of the State Society, he thought that he should not also serve as Delegate from the Society. The Albany County Society should have as many votes as possible in the House of Delegates, and therefore he declined the office to which he had just been elected.

The President called for nominations for Delegate to the State Society to serve for two years in place of Dr. NEUMAN, resigned.

Dr. NEUMAN nominated Dr. J. H. MITCHELL.

Dr. TRAVER nominated Dr. J. D. CRAIG.

The President appointed Drs. COOK and WARD as tellers.

After the balloting the tellers announced the result of the ballot:

Dr. CRAIG received 29 votes and Dr. MITCHELL 20 votes.

The President then declared Dr. CRAIG elected as delegate to the State Society to serve for two years.

Dr. E. A. VANDER VEER moved that the Society proceed to the election of Delegates to the District Branch. The motion was seconded and carried. The President called for nominations.

Dr. COOK nominated Dr. J. H. MITCHELL.

Dr. MERENESS nominated Dr. ANDREW MACFARLANE.

Dr. NEUMAN nominated Dr. F. L. CLASSEN.

Dr. WARD nominated Dr. F. M. JOSLIN.

The President appointed Drs. TRAVER and DE VOE as tellers.

Dr. E. A. VANDER VEER moved that the Society return to reports of committees while the tellers were counting the ballots.

The motion was seconded and carried.

Dr. CRAIG, chairman of the committee, appointed at the last annual meeting of the Medical Society of the County of Albany to consider the question of bacteriological tests which might be made by the city of Albany at public expense, read the following report:

MAJORITY REPORT.

Albany, N. Y., Oct. 10th, 1906.

The committee appointed at the last annual meeting of the Medical Society of the County of Albany to consider the question of bacteriological tests which might be made by the city of Albany at public expense, met on the 21st of August last and gave careful consideration to the subject of municipal bacteriological examinations. The committee was unable to arrive at an unanimous conclusion, and therefore respectfully submits to the Society the following majority recommendations:

It is the opinion of the undersigned that all bacteriological tests necessary for the diagnosis of disease should be made by the city of Albany at public expense. It is therefore recommended that an appropriation be made by the city for such purpose.

D. H. COOK,
O. D. BALL.

MINORITY REPORT.

Albany, N. Y., Oct. 10th, 1906.

The committee appointed at the last annual meeting of the Medical Society of the County of Albany to consider the question of bacteriological tests which might be made by the city of Albany at public expense, met on the 21st of August last and gave careful consideration to the subject of municipal bacteriological examinations. The committee was unable to arrive at an unanimous conclusion, and therefore respectfully submits to the Society the following minority recommendations:

It is the opinion of the undersigned that the present method of making bacteriological examinations of all cases of diphtheria and tuberculosis both for purposes of diagnosis and to ascertain the clinical progress of these diseases at public expense should be continued. It is further the opinion of the undersigned that bacteriological tests should be made at public expense for the indigent poor, in such other cases of contagious disease as may from time to time seem necessary in the public interest, and as may be determined upon by the Commissioner of Public Safety or his qualified representative. It is therefore recommended that an appropriation be made by the city for such purpose.

JOSEPH D. CRAIG, Chairman.

Dr. WARD moved the adoption of the minority report.

The motion was seconded.

Drs. WARD, VANDER VEER and CRAIG spoke in favor of the motion; Drs. COOK, MERENESS and MACDONALD against it.

The motion to adopt the minority report was carried by a vote of twenty-eight to thirteen.

The tellers announced the result of the balloting for Delegates to the Third District Branch.

Dr. MITCHELL received thirty-seven votes.

Dr. MACFARLANE received twenty-eight votes.

Dr. CLASSEN received twenty-five votes.

Dr. JOSLIN received twenty-one votes.

The President declared Dr. J. H. MITCHELL and Dr. ANDREW MACFARLANE elected as delegates to the Third District Branch.

6. *New Business.*

Dr. MACFARLANE moved that the Secretary purchase note-books on which the members might record their remarks in discussion, thereby securing an accurate report of the same in the minutes. Dr. MacFarlane stated that this method had been used in the meetings of the British Medical Association, Toronto, with good results and that no stenographers were employed, the official reports of the meeting being compiled from the members' own notes.

The motion was seconded and was lost.

Dr. NEUMAN moved that the minutes prepared by the Secretary be offered for publication to such journals as desired them, but without the payment of \$50 for publication, as had been customary in the past.

Drs. TRAVER, COOK and NEUMAN spoke in favor of the motion and Drs. MACFARLANE and ROONEY against it.

Dr. LIPES moved as an amendment to the motion that a committee should be appointed to ascertain what it would cost to employ a stenographer to take notes of the Society's proceedings.

The amendment was seconded.

Dr. NELLIS spoke in favor of the amendment.

Dr. A. VANDER VEER moved as an amendment to the amendment that the Secretary prepare the minutes as usual and send to each man taking part in discussion a report of his remarks, to be corrected and returned to the Secretary within five days; if not returned within five days it is to be supposed that the member does not wish to correct the report of his remarks, and the minutes may be printed without further correction.

Drs. A. VANDER VEER, JENKINS, MACDONALD, NEUMAN, GUTMANN, LAIRD, MOORE, C. H., MITCHELL and COOK spoke in the discussion.

Dr. MACDONALD stated that he believed that the minutes should not be printed until they were adopted by the Society, and asked for a ruling by the Chair as to whether Dr. Vander Veer's amendment was in order.

The decision of the Chair that the amendment was in order was sustained on appeal to the Society.

Dr. MACDONALD moved to lay the motion and amendments on the table.

The motion to table was seconded and carried.

The Society adjourned.

ARTHUR T. LAIRD, *Secretary.*

GEORGE GUSTAVE LEMPE, *President.*

THE MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

A regular meeting of the Society was held in Alumni Hall on Wednesday evening, November 7, 1906. The meeting was called to order at 8.45 P. M., the President, Dr. LEMPE, in the chair. Forty-three members were present.

The scientific program consisted of the reading of the following papers:

"Report of Cases Treated by a Modified Bier-Klapp Method of Hyperemia." J. N. VANDER VEER.

"Congenital Stenosis of the Duodenum. Report of a Case." H. L. K. SHAW and LEON K. BALDAUF.

Both papers called forth interesting discussion. Dr. VANDER VEER demonstrated suction apparatus used in the application of the Bier-Klapp method. Dr. SHAW demonstrated a specimen of the stomach and duodenum from the case reported.

Many of the members signed the new by-laws of the Society.

At the close of the meeting a lunch was served in the faculty room.

The corrected minutes of this meeting will appear in the ANNALS after the next meeting of the Society, December 12, 1906.

Program for December 12, 1906.

"What Shall We Eat; What Shall We Drink and How Shall We Be Saved?" George S. Eveleth, M. D. (by invitation), Little Falls, N. Y.

"The Importance of Waldeyer's Lymphatic Ring." C. F. Theisen.

"The Importance of Intra-Cellular Enzymes in Physiology and Pathology." Holmes C. Jackson, Ph. D. (by invitation), Professor of Physiological Chemistry, Albany Medical College.

Medical News

Edited by Arthur J. Bedell, M. D.

THE ALBANY GUILD FOR THE CARE OF THE SICK—STATISTICS FOR OCTOBER, 1906. Number of new cases 90; *Classified as follows*: Dispensary cases receiving home treatment, 2; district cases reported by health physicians, 10; charity cases reported by other physicians, 40; patients of limited means, 38; old cases still under treatment, 66; total number of patients under nursing care during the month, 156. *Classification of diseases* (new cases): Medical, 25; surgical, 6; gynecological, 2; obstetrical, 28; mothers and 23 infants under professional care; dental, 4; skin, 2; contagious diseases in medical list, 7; transferred to hospitals, 4; deaths, 6.

Special Obstetrical Department—Number of obstetricians in charge of cases, 3; attending obstetricians, 2; medical students in attendance, 8; Guild nurses, 8; patients, 11; visits by head obstetricians, 27; by attending obstetricians, 10; by the medical students, 64; by the Guild nurses, 129; total number of visits for this department, 230.

Visits of Guild Nurses (all departments): Number of visits with nursing care, 1,237; for professional supervision of convalescent, 214; total number of visits, 1,451. Five graduate nurses and 4 assistant nurses were on duty. Cases were reported to the Guild by three of the health physicians and by 31 others and by 4 dentists.

NEW YORK SKIN AND CANCER HOSPITAL—The governors of the hospital announce that Dr. L. Duncan Bulkley will give an eight-series of clinical lectures on diseases of the skin in the Out-Patient Hall of the hospital on Wednesday afternoons commencing November 7th, 1906, at 4:15 o'clock. The course will be free to the medical profession.

NEW ELLIS HOSPITAL, SCHENECTADY, N. Y.—On October 12th the new hospital was opened to the public. On October 15th the patients were

moved from the old to the new building. The new hospital is very completely equipped and has a capacity of eighty patients. Dr. C. G. Duryee has been elected President; Dr. E. J. Wiencke, Vice-President, and Dr. W. W. Goddard, Secretary of the medical staff.

NEW ENGLAND ALUMNI ASSOCIATION OF THE ALBANY MEDICAL COLLEGE—At a meeting held in Boston, October 9th, 1906, Dr. Harvey W. Van Allen, Springfield, Mass., was elected President; Dr. Craighton W. Skelton, Providence, R. I., Vice-President; Dr. Alfred H. Hoadley, Northampton, Treasurer; Dr. Walter G. Murphy, Hartford, Conn., Secretary.

A MAGAZINE FOR THE SIGHTLESS, the first of its kind in the United States and the second in the world is being planned and will be issued soon. The magazine will contain subjects of the day, amusements and things of special interest to the blind. Mr. W. G. Holmes, No. 1931 Broadway, New York city, desires the addresses of the blind who can read either the Braille or New York point.

INDEX MEDICUS—SECOND SERIES—Each number of the Index presents the literature of the month named on its cover and is issued as early as possible in the succeeding month, time being allowed for the arrival of foreign journals. The present editors are Robert Fletcher, M. D., and Fielding H. Garrison, M. D.

This publication consists of the titles in full of the books, pamphlets, theses, contributions to co-operative works and original articles in journals, transactions of medical and scientific societies, and the like, arranged under subject-headings. The titles in certain languages, as Russian, Polish, Swedish, Danish, Finnish, Hungarian, Bohemian, Roumanian, and Japanese, are translated into English.

The Index Medicus offers an extensive monthly bibliography, especially to those in charge of public and private sanitation, and it is desired to call the attention of such officials to the merits and practical value of this publication. Every month, among the subdivisions under the class of Public Hygiene, appear articles on Sewerage, Drainage, Water Supply, Inspection of Food and Drugs, Disposal of Dead, and Hygiene of Habitations, Occupations, Persons, Schools. The subjects of Medical Charities, Medical Education and schools, and Medical Jurisprudence are also included.

A table of contents accompanies each number, and a few months after the completion of each volume an "Annual Index of Authors and Subjects" is issued. The subject part of this annual index is elaborately sub-divided, the classification closely resembling that of the Index Catalogue of the Library of the Surgeon-General's Office, U. S. Army.

The volume for 1905 contains 1,241 pages and the index to the volume, 208 pages, the latter in double and triple columns.

Upon request a sample copy of the Index Medicus will be forwarded to any address.

The subscription price to the Index Medicus (to be paid in advance) is five dollars a year in the United States, Canada, and Mexico, with 60 cents additional for postage to other countries.

Subscribers are requested to remit by money order or New York exchange.

Communications relative to subscriptions should be addressed: Carnegie Institution of Washington, Washington, D. C.

Communications concerning the bibliography should be sent to: Editor of Index Medicus, Army Medical Museum, Washington, D. C.

Unless it appears that the INDEX MEDICUS is of greater service to the medical profession and can help to support itself to a greater extent than in the past, it may become advisable to discontinue its publication.

CONSOLIDATION OF MEDICAL JOURNALS.—On January 1, 1907, the *Therapeutic Gazette* will be consolidated with the *Medical Age and Medicine*. "*The Therapeutic Gazette, incorporating Medicine and the Medical Age*," will be the title of the consolidated journals. The publication will be under the able editorship of DOCTORS HOBART A. HARE and EDWARD MARTIN, long associated in the editorial conduct of the *Therapeutic Gazette* and widely recognized as among the most distinguished medical journalists in the United States. The subscription price will be the same as the present subscription price of the *Therapeutic Gazette*, \$2.00 per annum. The greater *Therapeutic Gazette* will be conducted with a view to the needs of active practitioners. Mr. Harry Skillman, Business Manager, and Mr. E. G. Swift, Publishers, promise that the consolidated publication will be, in the broadest sense, a journal of practical therapeutics—ably representative of what is best in medicine.

THE PRIZE OF THE ASSOCIATION FOR THE STUDY OF EPILEPSY.—Dr. W. P. Spratling announced a prize of \$500 offered by the Association for the Study of Epilepsy for the best essay on the etiology of epilepsy. The prize is given by persons interested heart and soul in the work of the Association, and the conditions governing the award are as follows:

All essays submitted must be in English, written in a clear, legible hand or on the typewriter, on one side of the paper only, and they must not contain more than 15,000 words. Essays must be in the possession of Dr. W. P. Spratling, at Sonyea, N. Y., not later than September 1, 1907.

The name of the person submitting the essay must not appear on the same, but be put in a sealed envelope on which is written a motto, and which motto should also appear at the top of the first page of the essay.

All essays received will be placed in the hands of three physicians to determine their merit. Two of these physicians are members of this Association; the third a member of the American Neurological Association. Announcement of the award will be made at the November, 1907, meeting of the Association. The Association will not feel bound to award the prize should no essay submitted be deemed of sufficient value to merit it. *Original research work into the etiology of epilepsy will be a leading factor in fixing the award.*

PERSONALS—DR. H. JUDSON LIPES (A. M. C., 1897) is suffering from an infected finger, which has confined him to the hospital for several days.

—DR. LEMUEL R. HURLBUT (A. M. C., 1905) has given up his position in the State Hospital at Binghamton, N. Y., and has started practice in Lockport, N. Y.

—DR. EDWARD A. DEAN (A. M. C., 1906) has started practice at West Seneca, N. Y.

—DR. FRED. C. CONWAY (A. M. C., 1906) has started practice in Middle Granville, N. Y.

MARRIAGES—RESSEGUIE—SANSON—DR. FRED J. RESSEGUIE (A. M. C., 1895) and Miss Helen B. Sanson, the youngest daughter of the late Henry B. Sanson, of Saratoga, were married on October 24th, 1906, at Montclair, N. J. After an extended tour Dr. Resseguie and bride will return to Saratoga, where the Doctor has a very large practice.

—KEENS—DOWSE—DR. WILLIAM G. KEENS (A. M. C., 1904) and Miss Jane Dowse were married at Albany, N. Y., November 19, 1906. Dr. and Mrs. Keens will reside at 85 West street, Albany.

—HURLBUT—CLAYTON.—At Binghamton, N. Y., in July, 1906, Dr. LEMUEL R. HURLBUT (A. M. C., 1905) and Dr. MARY CLAYTON, of Buffalo.

DEATHS—DR. H. E. BABCOCK (A. M. C., 1855) of New London, N. Y., died September 19, 1906, aged 79 years.

—DR. FLOYD D. MICHAEL (A. M. C., 1906) died of phthisis at his home in Lassellsville, October 29, 1906.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

Surgery: Its Principles and Practice. By Various Authors. Edited by WILLIAM WILLIAMS KEEN, M. D., LL. D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Volume I, with 261 text-illustrations and 17 colored plates. Philadelphia and London: W. B. Saunders Company, 1906.

Systems of surgery to which a considerable number of authors contribute portions have of recent years become rather numerous, and many of them far from satisfactory, because the list of contributors has not been selected with sufficient care. It thus happens that many of the so-called "systems" are of but comparatively little value because a general standard of excellence is not maintained throughout.

In this new work, which is to embrace five volumes, the first of which has just appeared, there is every indication that all of the contributions will be of a high standard of excellence. Dr. Keen has associated with himself the very best of the productive American surgeons, as well as some of the most prominent in foreign countries, and the list of con-

tributors gives all the necessary assurance of a complete and cohesive presentation of the surgery of to-day. Volume I contains nearly a thousand pages of subject matter, contributed by twelve authors. The volume is subdivided into twenty-two chapters. It begins with a most fascinating chapter on the history of surgery, with brief sketches of those who in the earlier times did the most to perfect and advance the art. Following this is a chapter devoted to surgical physiology, which is somewhat unique in character and of the highest importance, emphasizing as it does the close relationship of physiology to surgery. Following this is a series of chapters dealing with surgical pathology, all of the important pathological processes involved in surgical diseases being considered in more or less detail. An excellent chapter is that devoted to the processes of repair, the healing of wounds of all the organs and tissues being unusually well presented. Erysipelas, tetanus and diseases caused by special infections, as well as diseases derived directly from animals, insects and reptiles, all receive considerable attention. Separate chapters treat of scurvy, rickets, surgical tuberculosis, chancroid and syphilis. The volume concludes with chapters on tumors and wounds and contusions.

It will thus be seen that this volume is really an introduction to the general subject of surgery, and on the general principles established in this volume the succeeding discussion of the more practical phases of surgery will be based. One striking feature of this volume is the general excellence of all the chapters, for there is not one that does not show the greatest care in the arrangement and presentation of the subject in hand. The illustrations, of which there are 261, with seventeen colored plates, are most excellent in every particular, and the book-making is of the best. From a careful perusal of this volume we are led to believe that this work will represent a distinct contribution to the literature of surgery and one which will be a classic. It comes also at an opportune time and we believe it will merit and receive a most cordial welcome from the surgical profession at large.

ARTHUR W. ELTING.

Diseases of the Nervous System, Resulting from Accident and Injury.

By PEARCE BAILEY, A. M., M. D., Clinical Lecturer in Neurology, Columbia University, New York City. Consulting Neurologist to the Roosevelt, St. Luke's and Manhattan State Hospitals, etc. New York and London: D. Appleton and Company, 1906.

In 1898, Dr. Bailey issued a book called "Accident and Injury: Their Relation to Diseases of the Nervous System," which was the first American work of pretension developed out of the nervous conditions resulting from injuries. There was need of the information given by Dr. Bailey arising from the rapidly increasing number of cases and the multitude of questions involved, not only of medical, but also of legal import. Dr. Bailey wisely incorporated a scheme of examination of the function of the nervous system, and gave as far as was possible, an analysis of symptoms for the purpose of separating possible malingerers. The task was not an easy one, and expert opinion on the reality or the fraudulence of

so-called traumatic neuroses was not established. At the present time, there is more general acceptance of the diagnosis of neurasthenia, hysteria or neurosis originating in trauma, even when this cause is as much or more pronounced in its mental effects.

In the volume now issued the conditions are described upon a surer and more intelligent basis, and organic affections of the nervous system due to injury are given a place. The more comprehensive title, then, represents revision, enlargement and completeness, and is justified by the contents. The book consists of an Introduction upon the general history, and examination of the patient; Part I, upon the Organic Effects of Injury to the Nervous System; Part II, upon the Functional Effects of Injury, and Part III, on Medico-Legal Considerations.

In Part I, the effects of injuries upon the brain, spinal cord and peripheral nerves are described. Among the noteworthy suggestions may be repeated the statement that in head injuries the blood pressure should be measured every fifteen or twenty minutes, as long as the patient is in danger, as a sudden rise of twenty millimeters or more is strong indication of cerebral compression. The author believes the ideal treatment of traumatic epilepsy to be colony life, and surgical measures to be useful in recent cases, only when followed by medical care. He recognizes "delirious and confusional states and dementia" as the manifestations of insanity following injuries, by which are probably meant what another author has more happily termed the "shock and exhaustion psychoses." Chapter IX, which concludes Part I, discusses the relations of trauma to certain chronic degenerative diseases, as general paresis, locomotor ataxia, progressive muscular atrophy, paralysis agitans, multiple sclerosis, tumors, syphilis and diabetes mellitus. This chapter is not superfluous as these diseases are frequently attributed to injury. The author's discussion, however, is wisely in the line of a search for symptoms preceding the injury which is more apt to be an incident in the course of the affection rather than its cause. Thus Prince analyzed forty cases of tabes alleged to have been traumatic, and rejected all of them as presenting insufficient evidence.

In Part II are five chapters dealing with the traumatic neuroses, traumatic neurasthenia, traumatic hysteria, insanity from nervous shock and unclassified forms. These topics are treated on familiar lines. The mental element of fright and its more or less serious consequences are now generally admitted by corporations, even in the absence of physical injury. The paragraph devoted by the author to injuries by electricity is not explicit. Little is said of functional disorders arising from the transmission of electrical currents through the body, where the element of fright is excluded, as in the case of employees who are familiar with the currents. It is not probable that currents which do not cause death result in organic nervous affections, and the victim "receives his injury and dies of it, or quickly gets over the effect of it." Of litigation, it is said that "it may help the pocket, only by making large demands on health." The medico-legal possibilities are thus aptly summarized: "The jurors may be convinced of the honesty of all the views they have heard expressed and yet they are unable to determine from the character of the testimony which of the opposing opinions is the more likely to be correct. They are therefore

obliged to rely upon the impression made upon them by the injured person himself. They see a person in an even worse condition, perhaps, than his doctors had expected. They see an alleged paralyzed limb, absolutely motionless; they become witnesses of an emotional outburst, more harrowing than any related in the evidence. And they see these things one or two years after the accident had occurred. Their natural inference is that the injuries are permanent. They find it hard to believe that the outlook for a malady which has so long defied the resources or medical skill is anything but hopeless. They are unwilling, if not unable, to believe in the unreality of physical symptoms. They cannot comprehend a part being the seat of paralysis or insensibility unless there is some grave physical defect behind it; they do not know that a limb which is immobile to-day may be in wonted activity to-morrow. Thrown on their own resources by the contradiction in medical testimony, they render a verdict in accordance with their own impressions as to the plaintiff's injury. Their impression is that of a person severely and probably incurably injured; and their verdict, rendered accordingly, is generally in excess of anything to which the plaintiff is entitled."

Dr. Bailey's book treats of a subject of which there are many unsettled and changing factors. It is a faithful and practical presentation of the aspects of traumatic nervous conditions, as now understood. The language is clear and unambiguous and the arrangement of the matter excellent. Physicians engaged in this line of practice will find much to help them in its pages.

Les Embolies Bronchiques Tuberculeuses. Études Cliniques. Par le Dr. CH. SABOURIN, Directeur de Sanatorium de Durtol (Puy-de-Domé). Avec 53 figures et 7 traces Thermométriques, Paris. Felix Alcan, Editeur, Ancienne Librairie Germer Baillière et Cie., 108 Boulevard Saint-Germain, 1906.

In this carefully written monograph, the author exposes a number of important facts based upon personal clinical experience extending over a period of many years, and pertaining to the pathogenesis and evolution of certain ill recognized types of pulmonary tuberculosis. He insists in the first place, upon the importance of differentiating between the primary and the secondary lesions of the disease. The primary lesions are nodular and disseminated, and constitute what may properly be called the curable stage of pulmonary tuberculosis. The secondary lesions are represented mainly by pneumonic processes, and are of much more alarming significance as they betray material diminution in the resisting-power of the economy.

The author desires particularly to isolate a form of secondary tubercular lesion, which he calls "necrotic tuberculous pleuro-pneumonia" (pleuro-pneumonie tuberculeuse nécrosante). This lesion may kill the patient by giving rise to hemorrhage, but more usually it either heals or leads to the formation of a cavity, thus constituting an intermediary stage in the determination of vulgar chronic pulmonary tuberculosis. These various possibilities render it difficult to demonstrate anatomically, the existence *per se* of this pneumonia type of secondary tuberculosis; the

writer recognizes this fact, but insists that the clinical picture of the affection fully justifies the denomination he has proposed. It has indeed all the features of true croupous pneumonia: (a) consolidation of a well-defined area, "lésion en bloc" of French authors, associated with tubercular breathing from the outset; (b) the detection of a specific micro-organism, the tubercle bacillus, in the sputum (although other organisms are also found at a later stage of the disease as in other forms of pulmonary tuberculosis); (c) the almost constant association of pleurisy; (d) the early occurrence of central disintegration, considering the chronicity of the affection.

Necrotic tuberculous pneumonia is a regional lesion, and the lobular mass which it involves corresponds apparently to the area of distribution, either of a bronchial system or of a vascular branch. It is therefore more often peripheral and only occasionally deep-seated or central. The process is generally unilateral, being bilateral however in one case out of ten. Although pneumonic tuberculosis may affect any part of the lung, its seat of predilection is the posterior surface of the superior lobe, at the point of origin of the pulmonary fissure close to the vertebral border, being situated much more frequently above than below this point; practically, we may say, the lower half of the posterior surface of the superior lobe. More than one-third of the cases present this localization. It is much less common to find it at the apex, and when such is the case, the lesion is more often sub-clavicular than supra-spinous. Then come in order of frequency, localization in the inferior lobe, the axillary region, the mammary region, etc.

The etiology of this condition is that of tuberculosis in general; it must be remembered, however, that necrotic tuberculous pneumonia is never a primary manifestation of pulmonary tuberculosis, but a secondary lesion originating in a pre-existing focus of the lung itself. There is a history of cough and expectoration in nine cases out of ten, and not infrequently of recent hemoptysis. The patient often traces his disease to an attack of pleurisy or influenza, which however, is more likely to have been really a tubercular exacerbation. The author considers that the great factor in the determination of tuberculous pneumonia is exhaustion; it almost invariably occurs in patients who have lost all power of resistance, owing to long continued strain or overwork while suffering from the primary lesions of the disease. Patients remaining at Sanatoria or who take proper care of themselves by following some form of hygienic treatment (rest and air cure) practically never present the complication. The author very significantly condenses the etiology of necrotic tuberculous pneumonia by calling it "une affection de surmenage."

In a man of apparent good health the disease may set in abruptly and with all the acuteness of croupous pneumonia, but this is a rare occurrence; the mode of onset being usually of a more benign character, rather subacute and occasionally insidious. In a fair number of cases, the affection becomes well-defined only after a series of short febrile attacks, during which an aggravation of previously existing symptoms is noted. Hemorrhages are not infrequent in this stage of development and copious sweats, both at night and during the day, are seldom absent.

The symptomatology of necrotic tuberculous pneumonia differs naturally very little from that of pulmonary tuberculosis in general, but certain distinctive features do present, when one comes to the physical exploration of the chest. The most important fact in this connection is, that in nine cases out of ten, one has the immediate impression that a tubercular cavity exists, while in reality such is not the case (*i. e.*, not in the early stages of the disease). The author insists upon the importance of this peculiarity as regards prognosis.

As in pneumonia, there is dulness of variable extent and an increased vocal fremitus. Pain on pressure and muscle spasm are noticed in the juxta-vertebral variety of the disease. The breathing is tubercular, harsh and often distinctly cavernous. Cracklings and crepitations of unusual dryness which the writer calls "cracquements xyloidiens" (resembling the noise made by splitting up very dry wood), as well as others of musical quality, "cracquements xylophoniques," are very characteristic of the first stage of tuberculous pleuro-pneumonia. Later in the course of the disease, moist râles, usually subcrepitant, are rarely absent. Friction rubs, bronchophony and pectoriloquy, occur as in lobar pneumonia and require no further consideration. In the early stages of the disease, the expectoration has no characteristic features, but once the pneumonic process is fairly constituted, the expectoration becomes muco-purulent or purulent and contains large oval masses (the so-called anygdaloid and bursiform sputa), which represent the products of lobular disintegration. With cavity formation, the expectoration becomes nummular.

Certain facts bearing upon the clinical course of tuberculous pneumonia, as well as upon the evolution of the underlying morbid process, are of sufficient importance to deserve special mention. The author maintains that healing never takes place without the occurrence of central necrosis. An absolute cure is common enough and is not rare even after the formation of a well-marked cavity. There generally remains for a considerable length of time a patch of thickening over which the breathing sounds are harsh and vocal fremitus increased. There never develops more than one cavity in a focus of pleuro-pneumonic tuberculosis, and once healed the affected region rarely ever becomes active again. Occasionally, instead of getting better entirely, or of gradually presenting the clinical features of ordinary chronic pulmonary tuberculosis, the patient suddenly develops the symptom-complex of acute phthisis or galloping consumption. The writer insists that this mode of evolution is not due to extension of the pneumonic process but to renewed activity of the primary lesions at the apex, or else, to the development of additional and rapidly progressive foci in other hitherto unaffected regions of the lung.

Of course, necrotic tuberculous pneumonia is a complication of sufficient gravity to prove itself fatal; it is more probable, however, that it acts especially by sapping the patient's strength, thus favoring further bacterial invasion. Constituting, as it does in a fair number of cases, the first appreciable manifestation of galloping consumption, one will readily understand that pneumonia tuberculosis should ever have been considered as a type exclusively of the acute form of the disease. Very likely necrotic tuberculous pneumonia is the clinical expression of what

has been termed anatomically "caseous pneumonia," a lesion so frequently encountered in cases of acute phthisis that it is practically never mentioned among the changes occurring in the chronic affection. This conception the author regards as incorrect, and maintains that pneumonic processes should be classed among the lesions of both acute and chronic pulmonary tuberculosis.

The course of necrotic tuberculous pneumonia usually comprises two fairly well-defined stages: (a) the stage of development, which lasts from eight to fifteen days, and (b) the stage of resolution, the duration of which is variable, occasionally extending over a period of months and months.

There are four incidental manifestations occurring in the course of tuberculous pneumonia upon which the author particularly insists: (1) Hemoptysis, which although common at the onset, is relatively rare in comparison with the other forms of chronic pulmonary tuberculosis once the disease is fully established. (2) Congestive attacks, with aggravation of all the symptoms, and occurring in women at the time of, or immediately preceding, the menstrual period. The expectoration becomes rust-colored, or there may be small hemorrhages, but the attack is usually of a mild character, rarely lasting more than four or five days. The author believes that many cases of so-called "vicarious menstruation" really belong to this type. (3) Pleuritic complications are common, but the fluid is not abundant, and moreover, as it is exuded into the meshes of a thickened and trabeculated pleura, the percussion note is not influenced by change of position. (4) Exacerbations of the necrotic process, characterized clinically by an increase in the amount of expectoration, partly due to the presence of the products of disintegration. Masses of necrosed lung tissue, often of enormous size, are expelled for a number of days and impart a very fetid odor to the expectoration. This process of elimination is generally accompanied by a febrile reaction, an evening rise of from one to two degrees being the rule.

The author describes a number of clinical varieties of tuberculous pneumonia, dependent upon variations both in the regional distribution and in the intensity of the process. Although the severe pneumonic type is the most common and the most important of the secondary lesions of pulmonary tuberculosis, milder forms, described as superficial pleuropneumonia and localized pleuritis, are also frequently observed. Here, again, the juxta-vertebral localization is most common, and it must be remembered that in such cases the painful points are often reflected to the side or to the front of the chest.

In exposing his views on the pathogenesis of these various types of secondary pulmonary tuberculosis, the author considers that they are simply varying degrees in the intensity of a single morbid process, which may be compared to that occurring in hemorrhagic infarction of the lung. The classic infarct is a mechanical condition of vascular origin; the pneumonic lesion of tuberculosis is equally mechanical, but is dependent upon a bronchial process of infectious nature. The plug is formed by the products of bronchial ulceration, and regional hepatization is the natural sequence. The superficial necrotic pneumonia and the localized pleuritis

are milder forms, in which the territory involved is of lesser extent. The clinical picture of secondary tuberculous lesions is practically identical with that of pulmonary infarct. The physical signs are the same, and in both cases the lesion may heal, suppurate, undergo necrosis or lead to the formation of a cavity. One could therefore speak of pneumonic infarct and subpleural embolism—to qualify the most important types of secondary pulmonary tuberculosis.

The diagnosis of tuberculous necrotic pleuro-pneumonia may present considerable difficulty. The disease has very often been mistaken for typhoid fever, pulmonary congestion, broncho-pneumonia and especially for influenza. The considerable oscillations of temperature as well as the absence of a characteristic expectoration in the first stage of the affection will suffice to distinguish pneumonic tuberculosis from ordinary croupous pneumonia. It may be difficult in certain instances to differentiate between the pneumonic and the disseminate nodular forms of the disease, especially when the lesions of the latter are confluent. Tubular breathing along with other signs of consolidation, is usually present, but disappear rapidly if the patient is kept in bed for a few days. The affection may also be confounded with encysted pleurisy, pulmonary syphilis and hydatid cyst.

The prognosis of the milder types of secondary tuberculosis (superficial pneumonia and local pleuritis) is essentially favorable; that of the more extensive necrotic pleuro-pneumonic variety is grave, but not appreciably worse than the prognosis of pulmonary tuberculosis in general. In one hundred cases reported by the author an absolute cure took place in thirty, nine of which presented undeniable evidence of a well-marked cavity.

The treatment is essentially one of absolute rest under perfectly hygienic conditions. Rest and air cure are the only efficient prophylactic measures for patients suffering from the disseminate lesions of the incipient stage; they equally constitute the best means of combating the pneumonic complication, once established. It is astonishing how rapidly the area of hepatization diminishes and the various râles disappear, even after a few days' rest in a favorable climate. Superalimentation, gentle exercise and tonics of various kinds are indicated, of course, in this as in other forms of pulmonary tuberculosis.

A special chapter is devoted to an exhaustive consideration of the juxta-vertebral variety of necrotic tuberculous pleuro-pneumonia, a number of instructive cases being briefly but carefully reported and the lesions represented by schematic figures.

On the whole, it must be admitted that the meagre part which pathological anatomy has had in the genesis of the author's views curtails necessarily the scientific merit of this otherwise remarkable contribution. One soon feels that this little volume is the work of a careful and experienced clinician, a keen and unbiased observer. It is a valuable clinical study of the most important of pulmonary affections, which may be read with advantage by all.

LA SALLE ARCHAMBAULT.

The American Illustrated Medical Dictionary. All the terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry and kindred branches; with over 100 new tables. By W. A. NEWMAN DORLAND, M. D. Fourth Revised Edition. Octavo of 836 pages, with 293 illustrations, 119 of them in colors. Philadelphia and London: W. B. Saunders Company, 1906. Flexible Morocco, \$4.50 net; thumb indexed, \$5.00 net.

The latest edition of Dorland's Dictionary is an attractive and apparently complete work. A casual search for new terms results not only in finding them, but in obtaining satisfactory and concise definitions. A most striking feature is the mechanical beauty of the book. Clear type, superior paper and high grade illustrations are unfortunately not universal in technical publications. The publishers have achieved a notable success in this direction. The colored plates, printed from half-tones, represent a particularly gratifying blending of the various tints, and the results are most creditable. The volume is a desirable one, and well sustains its claim for compactness, thoroughness and availability.

The Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of GUSTAVUS P. HEAD, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. *Volume VII. Pediatrics.* Edited by ISAAC A. ABT, M. D., Assistant Professor of Medicine (Pediatrics Department), Rush Medical College. *Orthopedic Surgery.* Edited by JOHN RIDLON, A. M., M. D., Professor of Orthopedic Surgery, Northwestern University Medical School, with the Collaboration of GILBERT L. BAILEY, M. D., Instructor in Orthopedic Surgery, College of Physicians and Surgeons. Series 1906. Chicago: The Year Book Publishers, 40 Dearborn Street.

The present volume of the "Practical Medicine Series" is a book of two hundred and sixty-seven pages. Two hundred and four pages are devoted to Pediatrics and fifty-six pages to Orthopedic Surgery. The remaining seven pages are given up to an index.

The aim of the authors has been to give abstracts of the more important articles that have been published during the year dealing with their particular subject. An especial attempt has been made to select those articles that are of a practical nature.

The value of the book is enhanced by frequent editorial notes and comments.

J. M. B.

MEDICINE

Edited by Samuel B. Ward, M. D., and Hermon C. Gordinier, M. D.

Convulsions in Typhoid Fever.

WM. OSLER. *The Practitioner*, January, 1906.

Osler states that although nervous symptoms pointing to grave involvement of the nervous system are common enough in typhoid fever, convulsions are very rare. Murchison states that in 2,960 cases they occurred in only six. In one of these, the convulsions came on after much delirium on the sixteenth day, and the patient died comatose half an hour afterwards. The kidneys were found diseased. A second case, a boy thirteen, died suddenly in convulsions on the thirtieth day. In the third case general convulsions occurred on the eleventh day; recovery followed. In the fourth instance the patient recovered after a severe fit of convulsions lasting a quarter of an hour, which occurred on the fourteenth day. The fifth case, a man aged twenty-three years, had on the twelfth day two severe epileptiform convulsions and recovered. The sixth case, a male, aged fifty years, had during convalescence four convulsions. He had also thrombosis of the left femoral vein. He recovered.

In Osler's series of 1,600 cases at the Johns Hopkins Hospital, convulsions occurred in eight cases.

The first case, a boy aged seven years, was remarkable because of the fact that he was attacked with a convulsion in the street while apparently in perfect health and was brought to the hospital, not yet out of the attack which was the starting point of a severe and protracted typhoid. He left the hospital cured on the sixty-fifth day.

The second case was a male, aged twenty-five years. He was an epileptic on entering; he could be aroused, but would not answer questions. In a few minutes he had a right sided convulsion. Subsequently, he had three more convulsions. He recovered.

In the third case convulsions began while he was being tubbed, no paralysis followed and he recovered.

Case IV. Age 27 years, had on the eighth day a very severe convulsion, which lasted fifteen minutes. He had marked toxæmia and died from perforation on the thirteenth day.

Case V. Female, aged 16 years. Admitted on the twenty-eighth day of illness with an attack of fever of great severity; she was very tremulous and delirious and had five very severe convulsions epileptoid in nature; one of these came on while being tubbed, afterward she became very rigid and this rigidity remained several days; she developed bed sores and died about six weeks from the time of admission.

Case VI. Was a similar case with profound toxæmia and recurring convulsions, followed by rigidity without Kernig's sign but with apathy, marked delirium, hemorrhages, purpura and ultimate recovery.

In case VII the convulsions were the result of thrombosis of the cerebral vessels with local extravasations of blood.

Dr. O., interne, healthy, æt. twenty-eight years, on the ninth day of

a mild typhoid was attacked with very severe convulsions. There was profound unconsciousness, and in the severer convulsions great embarrassment of the respiration, so that he became quite livid. The convulsions recurred with great severity, the patient dying in one of them. The post-mortem showed thrombi in the ascending parietal and parieto-temporal arteries. The meninges over these vessels contained small hemorrhages and the brain substance contained numerous extravasations. Recent examination of the brain sections from this case showed extensive arteritis of the cerebral vessels.

Case VIII, aged five years. The day before admission he went into a convulsion at midnight which was several times repeated before morning. Following these attacks he was dull and listless and it was thought that he might have tubercular meningitis, but three days afterward a positive Widal reaction was present. Twenty-one days after admission 25 c. c. of a clear fluid was obtained by lumbar puncture from which typhoid bacilli were grown. The autopsy showed a widespread typhoid infection. The bacilli were isolated from the gall bladder, the liver, the urine, and the meninges. There was also typical fresh tuberculous meningitis, with extensive tuberculous adenitis. The case is unusual as one of combined typhoid and tuberculous infection.

Osler states that the prognosis is not very grave, considering the alarming nature of this complication, of the eight cases. Three died, one from perforation, one of intercurrent tubercular meningitis and one of cerebral thrombosis.

Recurring Epistaxis with Multiple Telangiectases of the Skin.

C. O. HAWTHORNE. *London Lancet*, January 13, 1906.

In 1901 Professor Osler described three cases of recurring attacks of epistaxis in association with multiple telangiectases of the skin and mucous membranes; two of the patients were brothers and several other members of the same family were reported to be simultaneously affected. This condition is stated by Professor Osler to be an extremely rare one and in his search through the literature, resulted in the discovery of only a single reference.

The author's case was a woman, aged forty-nine years, and the mother of nine children. Since her first pregnancy she had been aware of the presence of "red spots" on her face and also on several of the finger tips of her right hand, and from one of the latter, situated just under the free edge of the nail, bleeding presumably as a result of a slight injury had often occurred. A mere glance at the woman's face was sufficient to show a number of telangiectases scattered over both cheeks and a few were noticed on the fingers of the right hand. In answer to inquiries bearing on her personal history she volunteered the remark that since childhood she had suffered repeated attacks of bleeding at the nose and that on one occasion it had been necessary to plug the nostrils. Her father also and a sister were troubled in the same fashion and each of these as well as her eldest daughter had "spots" which she recognized

as similar to those present on her own face. Further, every one of her own children had had more or less numerous attacks of epistaxis.

These facts are sufficient to show that the family belongs to the group first described by Osler. He distinguishes the condition from haemophilia by the telangiectases and from the fact that victims are supplied from both sexes.

The woman whose condition is here described denied that spontaneous hemorrhage either in herself or the members of her family, ever occurred from any other part than the nose and she did not consider that there was any family disposition to bleed in excess from any slight injury.

Concerning a Case of Malignant Mediastinal Tumor with an Extremely Rapid Course. (Ueber einen Fall von malignen Mediastinal-tumor mit aussergewöhnlich schnellem Verlauf.)

VOLTOLINI. *Deutsche medicinische Wochenschrift*, March 1, 1906.

The author reports the following interesting case: R. G., aged forty-five years, a railroad official, had always been well up to his present illness. He had occasionally noticed a sudden swelling of the neck, which subsided after a short time. His illness started rather suddenly with dyspnoea and a feeling of constriction of the chest. On examination, it was found that the whole upper part of his body was markedly oedematous and swollen, the face was cyanotic and oedematous, the eyes were swollen, the neck was thick, the veins of the anterior chest wall were enlarged, and the right external jugular vein was partly thrombosed. The lower part of the body was entirely free of oedema. There was no temperature, but the pulse was rapid (120 beats to the minute), regular and strong. The left radial pulse appeared weaker than the right. The symptoms pointed to pressure upon the veins in the region of the vena cava superior. Examination of the chest showed that the apex beat was in the fifth intercostal space, a finger breadth outside the mammillary line. The heart sounds were normal. Above the area of cardiac dullness, and merging into it, a dullness on percussion was discovered, extending upwards to the first rib, and above the left sternal margin. On percussion over the right lung anteriorly, light tympanitic resonance was elicited, but from the third rib downwards the percussion note was absolutely flat.

This pleural effusion was found to be hemorrhagic in nature. There was no dysphagia and only slight hoarseness. It was not possible to make a laryngoscopic examination. The spleen was slightly enlarged.

The liver dullness extended slightly above the border of the ribs. The diagnosis of a neoplasm in the anterior mediastinum was made, and from the rapid onset of the symptoms, and the hemorrhagic pleural effusion, a diagnosis of a probable malignant neoplasm was made. An X-ray examination was made by Prof. Lensden, of Berlin, and a shadow situated in the median line, extending to the neck, and projecting over the sternal line on both sides, was obtained. The heart, which was

displaced towards the left, could be seen pulsating at the lower margin of the shadow, while the tumor remained immovable. Mercurial inunctions were employed, but had no effect on the rapid growth of the tumor. In a short time the entire left anterior chest wall was dull on percussion. The patient died about six weeks from the time he was first seen by the author.

At the autopsy it was found that almost the entire cavity of the thorax was filled with a firm, grayish white, tumor mass, which projected over the pericardium anteriorly, and was adherent to it, as well as to both lungs and the anterior chest wall. The parietal leaf of the pericardium was infiltrated by the tumor mass above and anteriorly.

The ascending aorta and the arch of the aorta were embedded in the tumor mass, the arch being so much narrowed, that a finger could barely be inserted in it.

Anatomical diagnosis: Round celled sarcoma of the anterior mediastinum.

In conclusion, the writer states, that his case was rather unusual because of the extremely rapid course of the disease, simulating almost an infectious disease.

The Modification of Diseases of the Blood by Erysipelas. (Ueber Beeinflussung von Blutkrankheiten durch das Erysipel.)

The writer describes a typical case of pernicious anaemia in which the examination of the blood showed 792,000 red blood cells, 2,600 whites and 20 per cent haemoglobin. There were many nucleated red blood cells. The patient grew gradually worse in the clinic and in spite of injections of caccodylate preparations, gradually went into a deep coma. She no longer took nourishment, showed great motor excitement with at times intense delirium. The pulse was thready and tracheal râles appeared. In fact she was moribund. Erysipelas then began in the right nostril and in a few days spread over the entire face. The temperature rose to 104°. On the third day the patient had occasional periods of clear consciousness; was much quieter, and frequently asked for a drink. The condition of the patient improved from day to day. Sufficient food was taken, vomiting no longer occurred, the erysipelas cleared up, the bronchitis subsided and the cardiac power increased. The splenic tumor disappeared and the only evidence of disease was a feeling of quick exhaustion due to the slight anaemia. Two weeks after convalescence the examination of the blood showed 2,288,000 red blood cells 4,000 leucocytes and forty-five per cent. haemoglobin. The last examination, two months after admission, showed 3,776,000 red blood cells, 6,000 leucocytes and eighty per cent. haemoglobin.

The question at once arises whether the erysipelas is responsible for this change or whether it was an accidental complication with no influence whatever.

Such blood crises in pernicious anaemia have been described without any special cause.

Similar observations in other diseases, however, justify the conclusion

that the erysipelas gave the first impetus to the regeneration of the blood. In local diseases of the skin the curative action of erysipelas has been known since the middle of the previous century. Lupus, syphilis and sarcomata have been favorably influenced by erysipelas.

The local effect is probably due to fatty metamorphosis and destruction of the cellular elements.

The effect upon general conditions has not been explained, although it has been attributed to the increase of temperature by some and to the hyperleucocytosis by others.

The Method of Dissemination of Tuberculosis from the Clinical Standpoint. (Die Verbreitungswege der Tuberkulose vom klinischen Standpunkte.)

FRANKEL. *Zentralblatt für innere Medizin*, 1906, No. 10.

Infection with the tubercle bacillus and its further dissemination follows its entrance into the deeper respiratory tract or into the lymph channels or blood vessels. All three theories have their special supporters, who, however, often consider the subject from a single point of view.

Experiments upon animals are of the greatest importance for a rational prophylaxis, since little more can be determined upon tubercular patients as to the method of entrance of the bacillus. The haematogenous infection in utero appears to be more frequent than was formerly accepted.

Schmorl found tuberculosis in nine placentae out of twenty in tubercular patients and once in incipient tuberculosis.

The lymphogenous development of tuberculosis has been emphasized by the two addresses of Behring and by the work of Austrian authorities. The tubercle bacilli takes the most direct path from the place of primary infection by way of the lymph glands to the bronchial glands, where they collect.

Heubner regards the phthisis incipiens of childhood, a tuberculosis of the bronchial glands. In adults the lymphogenous development seems conclusive for at least many cases. The writer observed three cases in which the cervical glands were first affected, then the lungs.

In general the first recognizable evidences of tuberculosis appear in the bronchi of pulmonary apices. The writer is convinced that primary bronchial tuberculosis of adults is usually a true inhalation tuberculosis.

That tubercle bacilli can reach the pulmonary apices by inhalation is shown by pneumokoniosis.

The author recognizes three types of acute pulmonary tuberculosis:

(1) the hemorrhagic form developing after a pulmonary hemorrhage; (2) the peribronchitic form in which there is no initial hemorrhage but there are small bronchitic areas of consolidation; (3) the form with a tendency to a rapid breaking down of the pulmonary tissue. This is especially seen in diabetes and pregnancy. In this type of acute tuberculosis mixed infections are frequently observed.

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